

JOHN CRANCH, ZOOLOGISTE DE L'EXPÉDITION
DU CONGO (1816)



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A propos du Coléoptère *Platygenia Zairica* : "Insectum in ripas Zairae fluminis Africanae insalubris a Domino Cranch, pro scientiis naturalibus et entomologiâ imprimis heu ! quantum deflendo, nuper lectum".

MACLEAY

Horae Entom., I, 1, 1819 : 152

I. INTRODUCTION : JOHN CRANCH (1785-1816)

C'EST bien un peu par hasard que j'ai été amené à m'intéresser à John Cranch, en découvrant dans le fonds de manuscrits du Muséum National d'Histoire Naturelle un dossier "ms 681" contenant, à ma grande surprise, toute une série de manuscrits de Cranch, journal, liste de collections, aquarelles, etc.

J'ai pensé que la publication de larges extraits de ces documents, accompagnée de quelques renseignements biographiques, servirait utilement la mémoire d'un zoologiste un peu oublié sans doute mais qui n'en aura pas moins été le premier à faire dans le Golfe de Guinée ce que l'on appellerait aujourd'hui de l'océanographie biologique, c'est à dire ce que les voyageurs naturalistes à bord des navires d'exploration pratiquaient depuis bien longtemps sous le simple nom d'histoire naturelle.

S'il ne m'est pas possible de nommer ici tous ceux qui, en particulier en Angleterre, ont bien voulu m'aider à réunir les renseignements nécessaires, je dois en tous les cas signaler ce que je dois au Dr A. L. Rice, du British Museum (N.H.) pour toute la peine qu'il a bien voulu prendre à cette occasion¹.

John Cranch est né à Exeter (Devon) en 1785, de parents originaires de Kingsbridge, dans le même comté. Richard Cranch, son père, ouvrier foulon, avait épousé Jane Bowring. Orphelin de bonne heure et élevé à Kingsbridge par un oncle, John Cranch apprit le métier de cordonnier-bottier². A ce titre il tenait

¹ Je tiens cependant à mentionner également, sans pouvoir mentionner tous ceux qui directement ou non ont contribué à cette étude, Mr R. L. C. Gallant (Stoneycombe, Devon), le Rev. F. E. Quick (Yealmpton, Devon) et le Mr. A. C. Wheeler (British Museum, N.H.).

² Ce ne sera pas le dernier cordonnier de Grande-Bretagne à devenir zoologiste car Thomas Edward, de Banff (Ecosse), obéira à son tour à une vocation comparable, mais dans des circonstances plus difficiles (cf. S. SMILES, *Life of a Scotch Naturalist*, Thomas Edward, London, John Murray, 4th ed., 1877, XIX+438 p., 30 fig., 1 portrait).

échope dans les foires de la région. Son intérêt, toutefois, était ailleurs et, apparemment sous l'influence du Colonel George Montagu, dont les collections de Knowle House, Kingsbridge constituaient un véritable musée, John Cranch allait, de plus en plus, se consacrer à l'histoire naturelle : il passe des nuits entières avec les dragueurs de la côte du Devonshire, assiste le Colonel Montagu, en particulier pour l'ornithologie et publie même quelques articles de zoologie dans un périodique local, *The Weekly Entertainer* ; le Dr Rice y a retrouvé les titres suivants, dans le vol. 51, de 1811 : Natural History of the large Pinna, No. 1, March 4th ; Natural history of the Jessamine moth, No. 2, March 11th ; Natural History of the Pea Crab, No. 3, April 29th ; Natural History of the Hermit crab, No. 4, May 13th. Il semble que son mariage ait apporté à John Cranch une certaine aisance, qui allait lui permettre, en fait, de satisfaire plus largement ses goûts de naturaliste ; comme le dit, non sans un peu de descendante indulgence l'auteur anonyme de " Kingsbridge & Salcombe " (1819) : " As Mr. Cranch, after his marriage, possessed a little independence, he devoted his hours to similar [allusion au Col. Montagu] *innocent amusements*³ ".

John Cranch vendra d'ailleurs des Crustacés au British Museum, comme le fera également le Colonel George Montagu (J. E. Gray *in* White, 1847, p. v).

Par le Colonel Montagu, John Cranch s'était trouvé mis en relation avec un troisième " dévonien ", le Dr. William Elford Leach, conservateur au British Museum et par ce dernier avec le Capitaine J. K. Tuckey (août 1776-4 sept. 1816)⁴, chef de l'expédition au Congo.

Il y a, bien entendu, d'autres John Cranch, à ne pas confondre avec notre jeune zoologiste ; le plus connu est le peintre John Cranch (1751 (Kingsbridge)-1821) mais on trouve un John Cranch dans un acte du 20 avril 1691, un John Cranch, petit-fils du précédent et attorney, fixé à Bath, un autre enfin participant à des fouilles autour de Kingsbridge (Kingsbridge & Salcombe, 1819, *passim*).

Un Judge Cranch devait émigrer en Amérique, ce qui explique les relations avec la famille Cranch de deux Présidents Adams : John, et John Quincy. Le Christopher Pearce Cranch (1813-1892), pasteur unitarien, peintre et poète (Chamber's Cyclopaedia . . . , III, 1903, p. 831), sa fille Carolina A. Cranch, peintre également, et un troisième peintre américain, John Cranch (1806-1891) appartiennent-ils à la même famille ?

John Cranch était, au point de vue religieux, un " dissenter ". Nous en avons plusieurs indices sans compter la plaque de la chapelle indépendante de Kingsbridge. D'abord, dans la notice biographique du " Narrative . . . ", anonyme mais de Sir John Barrow⁵, on trouve cette assez curieuse information équivalent à admettre qu'après tout on pourrait bien, à la limite, être chrétien sans être anglican : Sir John Barrow fait allusion (in Tuckey, 1818, H a, p. LXXVII) à " . . . the gloomy view taken of christianity by that sect denominated Methodists, of which, it seems, he

³ Italiques miennes.

⁴ A en croire Sir John Bowring (Rept and Trans. Devonshire Assoc., V, p. 102) Tuckey aurait été " also a Devonian " : John Barrow cependant (1818, H a, p. XLVII) le donne comme originaire du Comté de Cork.

⁵ Anstey (1962, note 2, p. 2) attribuait le texte " probably " à John Barrow ; Sir John Bowring (Rept and Trans. Devonshire Assoc., V, 1872, p. 102) affirme cependant très clairement que l'introduction (où se trouve la notice sur John Cranch) fut " written by Mr. Barrow, Secretary to the Admiralty, for whom I furnished the materials " ; on ne saurait être plus explicite.

was a member ” et ajoute (on appréciera le “ however ”) : “ He is represented, however, by his friends, as a sincere Christian, an affectionate parent, and a kind friend ”. Nous avons ensuite cette allusion au non-conformisme de Cranch dans la notice des *Annals of Philosophy* (1818) : “ Unfortunately, however, he had embraced a very gloomy system of religious belief ”.

A quelle Eglise appartenait Cranch ? Était-il méthodiste (wesleyen) comme le laisse entendre Sir John Barrow ?

Fox (Kingsbridge and surroundings, 1874) signalait une plaque commémorative dans la “ Independent Chapel ” de Kingsbridge. Des renseignements fournis par le Rev. Frank E. Quick et empruntés *pro parte* à une publication de James Fairweather (1887) sur l'histoire de Kingsbridge, il apparaît :

1° que la chapelle primitive, bâtie en 1780, était presbytérienne.

2° qu'en 1791 elle est devenue “ Independent or Congregational ”.

3° que, démolie en 1858, elle se verra remplacée par un nouveau temple qui, rénové en 1891, sera détruit par un bombardement aérien en 1943.

Quand Fox écrit, en 1874, l'église où se serait trouvée une plaque commémorative n'était plus celle du temps de John Cranch : la plaque a-t-elle été transférée dans la nouvelle église ? Il s'y trouvait une plaque dédiée à Jane Cranch, la fille de John, nous apprend le Rev. Quick (qui ne mentionne d'ailleurs pas de plaque au nom de John). Seule une enquête locale permettra d'éclaircir cette question : il se peut d'ailleurs que les destructions de 1943 ne soient pas faites pour la faciliter.

De toutes façons, ce qui semble certain, c'est que John Cranch appartenait à la Congregational Church, plutôt qu'à une autre communauté non-conformiste, wesleyenne, par exemple.

En 1815 l'Amirauté britannique décide l'envoi d'une mission destinée à l'exploration du Zaïre ou Congo pour déterminer si ce fleuve représentait ou non la terminaison du Niger de Mungo Park ; placée sous le commandement du Capitaine James Kingston Tuckey (1776-1816) de la Royal Navy et disposant du sloop “ Congo ” et du transport “ Dorothy ”, l'expédition devait avoir un caractère scientifique ; aussi va-t-on recruter une petite équipe de naturalistes, composée du Professeur Christen⁶ Smith, botaniste et géologue norvégien (17 Octobre 1785-22 Sept. 1816), de Mr. Tudor, “ *Comparative Anatomist* ”, de John Cranch, “ *Collector of Objects of Natural History* ” et d'un King's Gardener de Kew Gardens, Mr David Lockhart ; à ceux-ci se joindra un certain Mr. Edward Galwey, “ Gentleman not borne on the Congo's books ”⁷, ou “ a gentleman volunteer ” (Leyden, 1817, p. 506).

Tuckey proposait comme salaires, dans une lettre du 11 janvier 1816 : £350 pour Smith et £250 pour Cranch et Tudor, ces sommes pouvant se voir respectivement portées au retour à £400 et £300. Il demandait en même temps une avance de £150 pour Smith et de £200 pour chacun des deux autres.

Cranch reçoit des “ Instructions for the Collector of Objects of Natural History ”, où un système de numérotation est proposé, utilisant 2 fils, rouge et blanc, les noeuds blancs marquant les unités, les rouges les dizaines, les rouges doubles les centaines.

⁶ Et non “ Chretien ” comme l'écrit l'Introduction de la Narrative . . . , 1818, p. LXIII, ni même, à strictement parler, “ Christian ”, “ *Christian* ”, *ibidem*, p. 420.

⁷ P.R.O., Adm. 1/2617/56.

Je ne sais si cet ingénieux système se verra utilisé, mais il faut par contre reconnaître que les procédés de numérotation de Cranch, tels qu'ils se trouvent transcrits dans ses listes, restent singulièrement incompréhensibles.

Cranch n'est peut-être pas de caractère très facile, s'il faut en croire Smith (H c, p. 235) : " Cranch, I fear, by his absurd conduct, will diminish the liberality of the Captain towards us. He is like a pointed arrow to the company ". Il se verra d'ailleurs quelque peu taquiné par ses compagnons, comme l'avouera Smith (H c, p. 255) : " Poor Cranch is almost too much the object of jest. Galwey [le gentleman volontaire] is the principal barterer ".

Il y a dans le journal de Cranch, à la date du 4 juin, une page en sténographie dont il serait bien intéressant de connaître la signification car si Cranch a éprouvé le besoin de dissimuler un assez long texte à la curiosité d'éventuels lecteurs, on voudrait bien en savoir la raison. Malheureusement, malgré les efforts d'un spécialiste, Mr. F. Higenbottom, City Librarian à Canterbury, le système employé n'a pas pu se voir identifié : il existerait d'ailleurs plus de 300 systèmes britanniques de sténographie . . .

Mais il est temps de laisser la parole à John Cranch lui-même, dont le journal va permettre de suivre l'activité de mars à août 1816, presque jusqu'à sa mort, par conséquent.

Rappelons que sur les 56 personnes se trouvant à bord le jour de l'appareillage (25 février)⁸, 21 ne reverront pas l'Angleterre (morts à terre : 14, à bord du " Congo " : 4, au cours de la traversée de l'Atlantique : 2, à Bahia : 1).

Cranch mourait le 4 septembre⁹ et était enterré " at Embomma [Boma] by permission of the King, in his own burial ground, where he was laid with military honours by the side of his fellow traveller Mr. Tudor, who had been interred with the like ceremony, a few days before " (John Barrow, 1818, H a, p. LXXVI)¹⁰.

Cranch laissait une veuve et une fille unique, Jane Bowring Cranch, qui a laissé une évocation, intitulée " Troublous Times " (London, 1862), de la persécution des Puritains à laquelle ses propres ancêtres (maternels ?) s'étaient trouvés associés.

J'ai dit ailleurs (1967, p. 31) qu'en fait Cranch aura été le premier à faire dans le Golfe de Guinée de la zoologie marine et même, à certains égards, de l'océanographie biologique.

Le " small net " de Cranch, " which was always suspended over the side of the vessel " (Leach, 1817, p. 294) aura été la bien modeste origine d'une lignée nombreuse d'engins de plus en plus perfectionnés et efficaces. Raison de plus pour ne pas oublier le petit filet de John Cranch et la mémoire du petit cordonnier du Devonshire enterré à " Embomma " dans le " cimetière royal " de ce village congolais.

II. LE MS. 681 DU MUSEUM ET LES AUTRES SOURCES

Le Muséum National d'Histoire Naturelle (Paris) conserve dans son fonds manuscrits un MS. 681 ainsi décrit dans le Catalogue général des manuscrits des biblio-

⁸ A savoir : 49 (officiers et équipage) + 2 (Congolais) + 4 (naturalistes + 1 (Mr. Galwey) = 56.

⁹ C'est la date donnée par Hawkins (1819) : il eût été impossible de la préciser d'après l'introduction de la " Narrative . . . " (p. LXXVII) mais connaissant la date du 4 on reconstitue : malade le 23 août entre " Cooloo " et " Inga ", rapatrié le 24 (cf. Tuckey, H b, p. 179).

¹⁰ Les sources consultées ne spécifient pas si pour le service funèbre d'un non-anglican aura été utilisée la liturgie " *Burial of the Dead* " du *Prayer-Book*. Chr. Smith, lui, aurait été, non pas enterré mais immergé dans le fleuve (L. von Buch, 1826, p. 216).

thèques publiques de France, Paris, II, 1914, p. 121 "681. Manuscrits de John Cranch sur son voyage au Congo (1816). Notes de voyage, journal et dessins. On remarque : "Remarks on animals as were observed during a voyage of discovery in the Congo expedition, with a list of such specimens as were taken and preserved [sic]"—"35 drawings or sketches of fishes from the voyage to the river Congo"—XVIIIe siècle [sic]. Papier-Liasse" (A. Boinet).

Un problème se pose, celui de l'origine de ces documents dont on se demande aussitôt comment ils se trouvent aujourd'hui conservés à Paris. Pour l'instant on ne peut guère lui imaginer d'autre solution que celle que propose le Dr. A. L. Rice (*in litt.*) : Leach¹¹ se serait vu confier les papiers de Cranch puisqu'il devait étudier les résultats zoologiques de l'expédition Tuckey : en quittant le British Museum pour le continent il aurait emporté ce dossier : l'aura-t-il prêté à l'un de ses collègues du Jardin des Plantes où il sera définitivement demeuré ? On sait que les dernières années de Leach ont été assombries par des troubles mentaux qui l'obligèrent à cesser toute activité scientifique.

Il est en tous les cas certain que Leach a eu entre les mains—et c'était normal puisqu'il avait les collections de Cranch à identifier—les papiers de Cranch ; il fait d'ailleurs explicitement allusion aux "Ms. observations made by Mr. Cranch" (1818, p. 419).

Une lettre de Mr A. E. Gunther (18-III-1969) à Mr P. J. P. Whitehead, qui a bien voulu me la communiquer, signale que Leach qui avait été à Paris en 1817 semble y être retourné, mais cette fois déjà malade et en route pour l'Italie, en septembre 1821 : serait-ce à cette dernière occasion qu'il aurait rendu visite à ses collègues du Jardin des Plantes et leur aurait communiqué les papiers de Cranch ?

L'hypothèse d'une communication par Leach à quelqu'un du Muséum des papiers de Cranch est d'autant plus plausible qu'on croit même pouvoir identifier le bénéficiaire du prêt : Blainville, en effet, signale à deux reprises (1822, p. 438 et lég. fig. 17 [pl. n. num.]) avoir emprunté une figure au manuscrit du "Voyage des Anglais au Congo". On verra plus loin (p. 64) qu'il a dû confondre deux sources (J. Sowerby et Cranch), mais cela prouve en tous les cas qu'il connaissait le dossier devenu le Ms. 681.

Il est d'ailleurs possible que Leach ait également emporté sur le Continent certains spécimens de Cranch, puisqu'aucune des espèces décrites par lui en 1830, alors qu'il avait quitté le British Museum depuis longtemps, ne figure dans les collections de ce dernier.

Les papiers de Cranch étant parvenus au Muséum on pourrait se demander si les spécimens étudiés par Leach depuis son départ de Londres ne s'y trouveraient pas aussi. Je n'ai rien retrouvé.

Le MS. 681 est un recueil d'éléments disparates, constituant, dans ma numérotation, les pièces A-G de l'énumération des sources.

A. 226×372 mm, 12 (23 p.)+1 ff. (1 p. de sténo) : "Remarks on Animals &c as were observed during a voyage of discovery in the Congo Expedition with a list of such specimens as were taken & preserved by John Cranch". Sur la couverture : "J. Cranch's Journal and lists". Cette pièce comporte 9 illustrations :

¹¹ William Elford Leach, 1790-25 Aug. 1836, Palazzo S. Sebastiano, près Tortona, Italie.

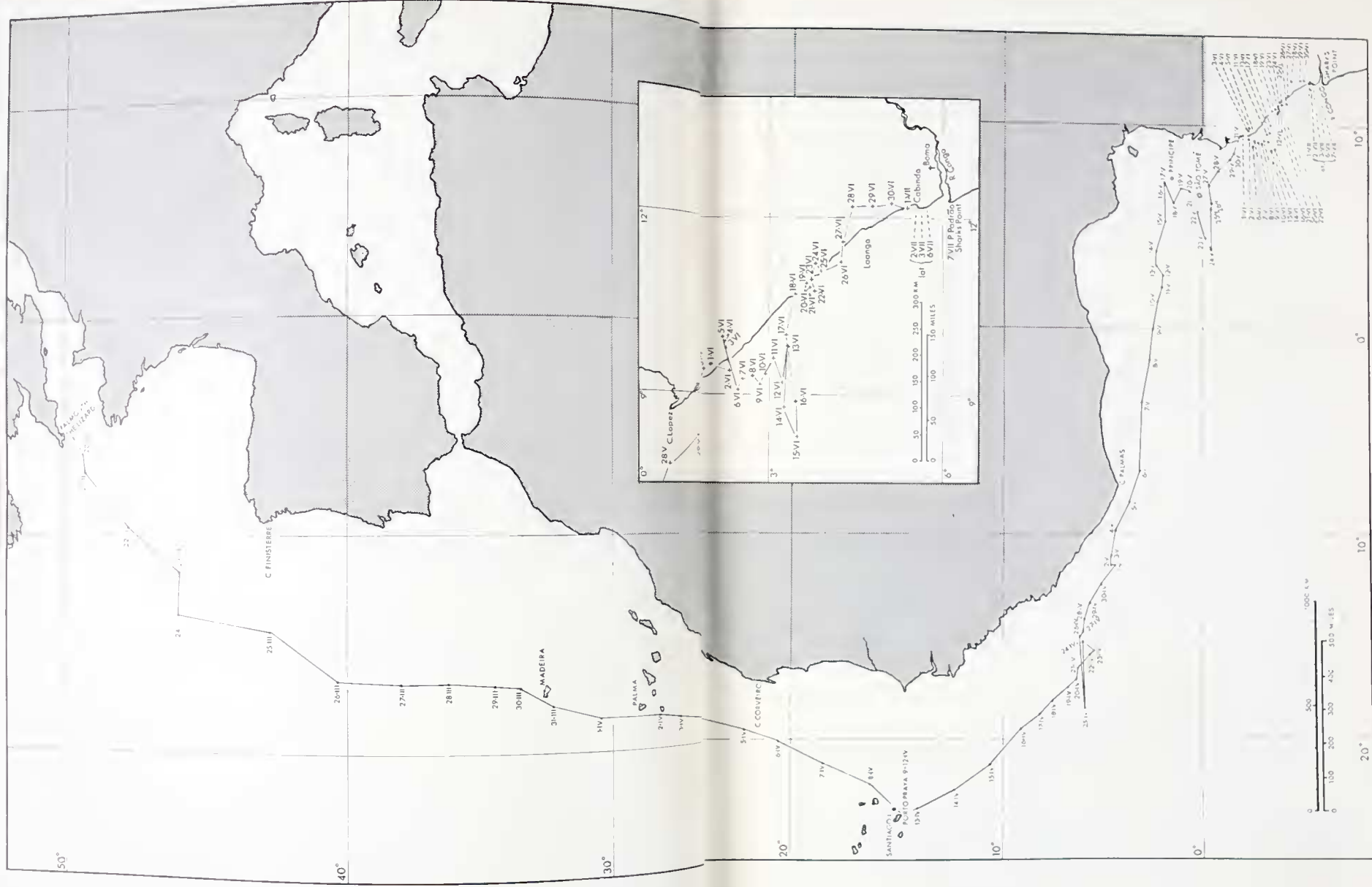


FIG. 1. Expédition du Capitaine Tuckey au Congo 1816. Routes suivies par la "Dorothy" et le "Congo" d'après les positions indiquées. Carton : routes au Cap Lopez au Congo, 28 mai-7 juillet 1816. Lieu de la sépulture de John Cranch.

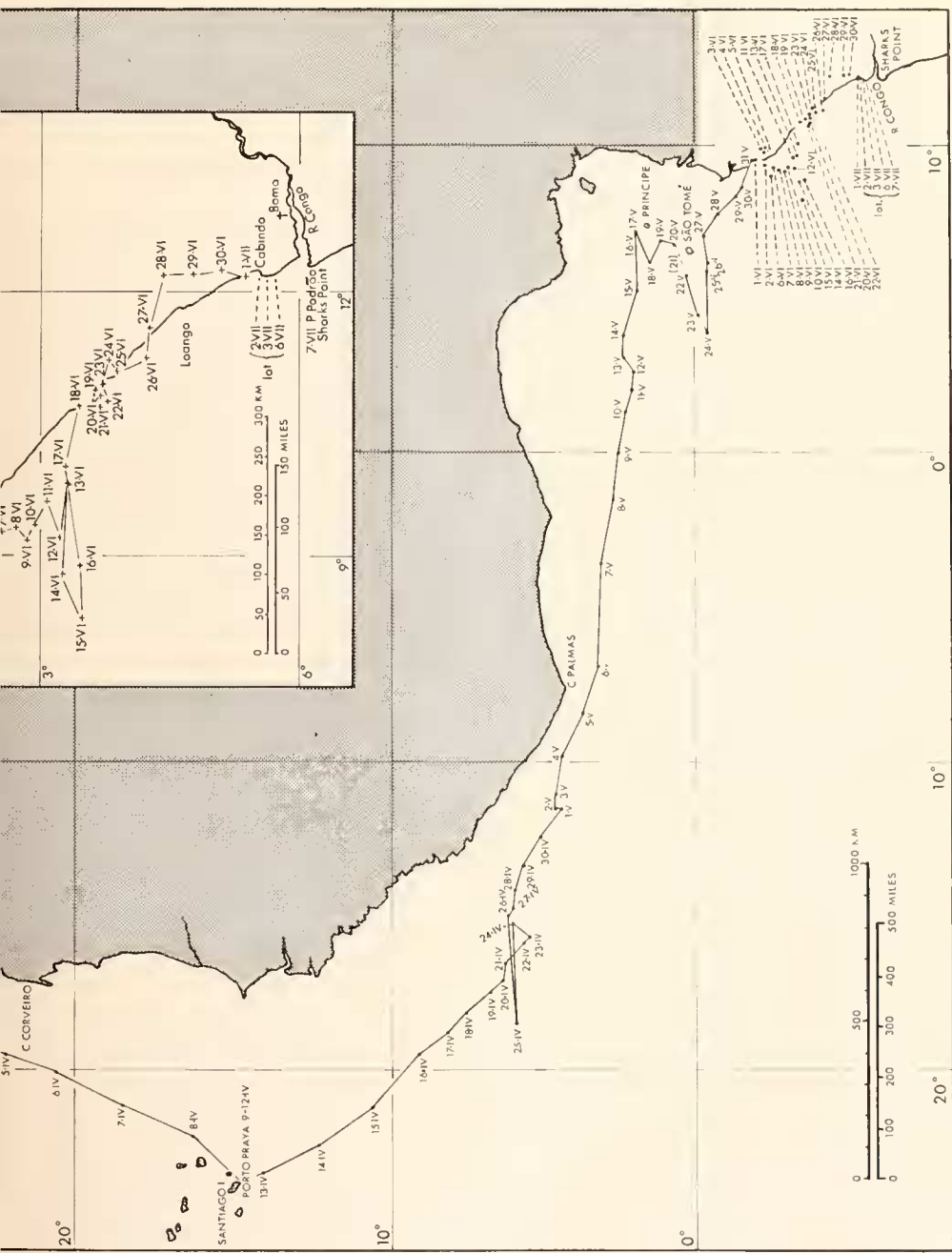


FIG. 1. Expédition du Capitaine Tuckey au Congo 1816. Routes suivies par la "Dorothy" et le "Congo" d'après les positions indiquées. Carton : routes au Cap Lopez au Congo, 28 mai-7 juillet 1816. Lieu de la sépulture de John Cranch : †

- P. 10 : *Oniscus* sp. [*Nerocila trichiura*] (pl. 3, fig. 2)
 P. 11 : nageoires (1ère et 2ème dorsales, pectorale d'un thon "albacore" ; il s'agirait d'après le Prof. E. Postel, non pas de *Neothunnus albacora* mais plutôt du Patudo, *Parathunnus obesus*.
 P. 12 : a. 2 aquarelles de *Lepas* sp. [*Conchoderma virgatum*] (non reproduit).
 b. *Exocoetus* sp. (an *Mesogaster* ?) [Exocétidé juv.] (non reproduit), = C, fig. p. 27 (non reproduit) et G, n° 9 (pl. 2, fig. 1).
 c. Poisson [Gonostomatidé] (non reproduit) = C, fig. p. 27 (non reproduit) et G, n° 10 (pl. 2, fig. 3).
 P. 14 : 5 figures d'une zoé de Brachyoure (non reproduit)
 P. 16 : Poisson [jeune de *Scyris*] (non reproduit), = G, n° 12 (pl. 2, fig. 6). ou genre voisin
 P. 20 : Poisson [*Histrio histrio*] (non reproduit), = G, n° 26 (pl. 2, fig. 7).
 P. 21 : Poisson [*Balistes* sp., juv. ou Monacanthidé ?] (pl. 2, fig. 2), = G, n° 23 (pl. 2, fig. 4).

B. 204 × 318 mm, 12 p. : "Remarks on Animals &c as were observed during a voyage of discovery in the Congo Expedition with a list of such specimens as are preserved". Le texte est précédé de celui d'une lettre datée du 29 juin 1816, donc quelques jours avant l'arrivée à l'embouchure du Congo, et probablement destinée à Sir Joseph Banks (cf. p. 45) ; la liste elle-même va jusqu'au 6 août, date de la note écrite à Boma (p. 9) et où Cranch laisse percer quelque déception quant à une faune qu'il s'attendait à trouver beaucoup plus riche.

C. 1 carnet, 118 × 184 mm, 76 p., utilisé par les deux bouts et contenant :

1. journal (jusqu'au 5 juin), p. 1-13
 2. liste d'oiseaux (nos 1-21), p. 13-14
 3. 2e liste d'oiseaux (nos 1-15), p. 15
 4. 3 descriptions de Poissons, p. 17-18
 5. une note ("It might be expected. . ."), p. 18
 6. liste commentée d'oiseaux (nos 1-42), p. 19-22 : semble le brouillon de la liste B, p. 9-11 mais divers détails du document C 6 n'ont pas été repris dans B
 7. inventaire des bagages de J. Cranch, p. 41-43¹²
 8. description d'un oiseau, July 31, p. 66
 9. liste de coquilles (plus : *Echinus* et "an egg from a Hawks nest, Porto Praya) (n° 1-11), p. 68
 10. liste d'animaux (nos 1-15), p. 70
 11. liste d'oiseaux (nos 1-9), p. 72
 12. liste d'animaux (nos 1-35), p. 72-73
 13. liste d'animaux, p. 76 (en partie déchirée)
 14. dessins
- P. 9 : Poisson [indét., cf. p. 55] (non reproduit) = G, n° 2 (pl. 1, fig. 2)
 P. 19 : personnages (non reproduit)

¹² Cet inventaire, intitulé "Board the Congo. Cabin box" est en partie illisible ; je crois avoir lu, en tous les cas : 10 shirts, 2 Pairs Breeches, 2 Pieces of soap & one towell, Blue waistcoat, 5 white hanks., Blue Jacket, Black coat, Gren d°, Drawers, 1 shirt-clean, 2 p. coton stockings, 1 flannel shirt, P. Drawers, Red Cravate, 1 Flannel shirt, 1 p. Drawers, 3 waists., 2 p. Garters, night cap, tape, needle & thread, P. stockings, scissors, 2 P. gloves, three Brushes, looking glass.—Box 2 : 9 quires of Paper, 1 lb thread.

- P. 23 : Salpe [*Salpa maxima* f. *gregata*, cf. p. 69] (non reproduit)
 P. 26 : 2-3 dessins d'un Trématode (*Hirudinella* sp., peut-être d'un Thon "albicore" (*Neothunnus albacora*)
 P. 27 : 2 Poissons [Exocétidé juv. et Gonostomatidé] (non reproduits) = A, fig. p. 12 (non reproduits) et G, n° 9 (pl. 2, fig. 1) et 10 (pl. 2, fig. 3)
 P. 28 : Invertébrés divers, *Verella* sp., larve énigmatique de Crustacé, etc., (Pl. 3, fig. 3 et 5)
 P. 30 : Phyllosome (*Ph. clavicorne*) et *Alima* (Pl. 3, fig. 1).
 P. 32 : 2 *Alima* (Pl. 3, fig. 6), 1 larve énigmatique de Décapode (non reproduit)
 P. 40 : Salpe [*Salpa fusiformis* f. *gregata*, cf. p. 69] et Siphonophore [cf. p. 38 et 62], non reproduits
 P. 44 : personnages
 P. 48 : personnages
 P. 51 : Phyllosome (*Ph. commune*) (Pl. 3, fig. 4)
 P. 56 : personnages
 P. 61 : personnage

D. carnet, 120 × 190 mm, 5 p. (écrites). Notes August 7-17 (dernière entrée : "Saturday 17") ; Cranch est alors sans doute déjà tombé malade ; l'écriture devient difficile à lire.

E. 234 × 357 mm, 5 p. : A List of specimens pres^d in spirit.—Voir chap. VI, p. 57

F. 160 × 200 mm, 4 p. : A Table of Latitudes & Longitudes taken in HMS Congo by Mr Fitzmaurice—Cette liste de positions est à compléter par celles que donne la "Narrative . . ." (H h) et le dossier P.R.O., Adm. 1/2617 : ces diverses sources ne donnent d'ailleurs pas toujours pour un même jour les mêmes chiffres, mais le dernier document cité concerne les positions de la "Dorothy" : il est probable que les positions auront été séparément calculées, sur le "Congo" par Fitzmaurice et sur la "Dorothy" par Tuckey (ou Hawkey).

G. 180 × 220 mm : "35 drawings or sketches of fishes. From the voyage to the river Congo by Smith, Hawkie & J. Cranch".

On trouvera au chapitre V, "Les illustrations," la liste de ces dessins et aquarelles, à l'exécution desquels, sans qu'il fût possible d'en identifier individuellement les auteurs, auraient participé, avec Cranch, le botaniste Smith et le Lieutenant Hawkey en réalité, il semble que ce dernier soit l'auteur, sinon exclusif, du moins de beaucoup le plus important.¹³

Les autres sources

H. "Narrative of an Expedition to explore the River Zaire . . .", 1818, 4°, LXXXII + 498 p., 13 figs. n. num., 13 pl., 1 carte h.t.

H a, Introduction, anonyme [Sir John Barrow], p. I-LXXXII

H b, Captain Tuckey's narrative [jusqu'au 18 septembre 1816], p. 5-225.

H c, Professor Smith's journal [jusqu'au 9 septembre 1816], p. 229-336.

H d, General observations, p. 337-390

H e, Appendix, No. II, W. E. Leach, Observations on the Genus *Ocythoe* . . . , p. 400-401, pl. XII.

¹³ Pourquoi trouve-t-on le nom de cet officier écrit ici "Hawkie". Les documents imprimés ("Narrative . . .") donnent "Hawkey", il se peut que "Hawkie" soit ici un simple lapsus calami. Les incertitudes orthographiques dans les anthroponymes ne sont d'ailleurs pas rares encore au début du XIXe siècle : Leach n'hésite pas à dédier au Prof. Smith un "*Lupa Snythiana*".

- H f, Appendix, No. III, E. Home, The distinguishing characters between the Ova of the *Sepia* . . . , p. 402-406, pl. XIII-XIV.
- H g, Appendix, No. IV, anonyme [W. E. Leach], A general Notice of the Animals taken by Mr. John Cranch . . . , p. 407-419, 1 pl. n. num.
- H h, Appendix, No. VII, anonyme [L. Fitzmaurice?], Hydrographical Remarks from the Island of St. Thomas, to the Mouth of the Zaire, p. 489-498.—Dans ce texte il faut évidemment lire : p. 489, " 27th " [May] " 5th " [June]—p. 490-495, " June " au lieu de : " May "—p. 495-498, " July " au lieu de " June ".

J. Public Record Office (London)

Le dossier Admiralty 1/2617 renferme une série de pièces concernant l'expédition, lettres de Tuckey, " Instructions for the Collector of Objects of Natural History ", " Memorandum of an Instruction to Captain Tuckey ", " Diary of the Route and Meteorological Diary of the Congo Expedition " (Tuckey), " Dorothy transport. Journal of an Expedition to the River Zaire by Captain J. H. Tuckey ", etc.

III. LES ROUTES

On a vu plus haut qu'une pièce F du MS. 681 fournissait une table des positions du " Congo " et que deux autres documents, la " Narrative . . . " et le journal de Tuckey (P.R.O. Adm. 1/2617) donnaient un certain nombre de positions de la " Dorothy ".

Le calendrier général de l'expédition s'établit comme suit :

Février 1816

- 22—Tuckey embarque sur la " Dorothy "
- 25—Appareillage
- 27—" Land gale with heavy squalls and rain "
- 28—" Fresh gale from NNW "

Mars 1816

- 3—" Gale "
- 4—" Gale "
- 7—" Received a weeks fresh beef from the contractor at Falmouth "
- 9—Lizard
- 13-15—On est encore pres de la terre (Falmouth)
- 20— $49^{\circ}17'N-6^{\circ}19'W$ at noon, $t = 46^{\circ}5$ [J]
- 21— $49^{\circ}14'N-7^{\circ}06'W$, $t = 50^{\circ}$ [J]
- 22— $47^{\circ}44'N-9^{\circ}35'W$, $t = 50^{\circ}$ [J]
- 23— $45^{\circ}57'N-11^{\circ}38'W$, $t = 51^{\circ}$ [J]
- 24— $44^{\circ}23'N-13^{\circ}32'W$, $t = 52^{\circ}5$ [J]
- 25— $42^{\circ}43'N-14^{\circ}14'W$, $t = 53^{\circ}5$ [J], par le travers du Cap Finisterre.
- 26— $40^{\circ}16'o N-15^{\circ}30'o W$ [F], [J : $16^{\circ}03'W$, $t = 54^{\circ}5$]
- 27— $38^{\circ}1'o N-16^{\circ}35'o W$ [F], [J : $38^{\circ}01' N-16^{\circ}28'W$, $t = 56^{\circ}$]
- 28— $37^{\circ}15'o N-16^{\circ}32'o W$ [F], [J : $16^{\circ}33'W$, $t = 58^{\circ}5$]
- 29— $34^{\circ}38'o N-16^{\circ}41'o W$ [F], [J : $16^{\circ}52'W$, $t = 60^{\circ}5$]
- 30— $33^{\circ}33'o N-16^{\circ}56'o W$ [F], [J : $17^{\circ}23'W$, $t = 62^{\circ}$]

31—32°17'0 N—17°51' W [F], [J : 17°42' 1/2 W, t = 63°], Madère en vue (H a, p. 10 ; H b, p. 233, et J)

Avril 1816

1—30°18'0 N—18°20'0 W [F], [J : 18°12'W, t = 63°]

2—28°15'0 N—18°23'0 W [F], [J : 18°18' W, t = 63°5], Palma (Canaries) en vue.

3—26°34'0 N—18°28'0 W [F], [J : 18°16'W, t = 65°]

4—24°13'0 N—18°51'15 W [F], [J : 18°31'W, t = 65°]

5—22°0'0 N—19°25'0 chron. (19°17'0.D) [F], [2 : 19°09'W, t = 65°]. passé le Cap Corvoeiro.

6—20°29'0 N—19°59'0 W [F], [J : 19°51'W, t = 66°]

7—18°27'0 N—21°3'0 W [F], [J : 20°55'W, t = 67°]

8—16°16'N—22°0'0 W [F], [J : 16°23'N, 21°45'W, t = non indiquée]

9—14°53'47 N—23°31'8 W [F], Porto Praya, St. Iago [F, la source J s'arrête ici]
10—12—Porto Praya

13—13°59'0 N—23°8'39 W [F]

14—12°16'0 N—22°15'27 W [F]

15—10°30'0 N—21°4'44 W [F]

16—9°0'0 N—19°20'52 W [F]

17—8°12'0 N—18°36'22 chron. (18°13'7 0) [F]

18—7°37'0 N—17°57'0 chron. (17°34'15 0) [F], [J : 7° 1/2]

19—6°49'0 N—17°13'45 W [F]

20—6°28'0 N—16°56'W [F]

21—6°18'0 N—16°24'50 W, chron. (16°44'30 0) [F]

22—5°43'0 N—15°41'22 W [F]

23—5°47'0 N—15°28'52 W [F]

24—6°1'0 N—14°55'0 W [F]

25—5°33'0 N—18°18'0 W [F]

26—6°13'0 N—14°44'10 W [F], [I : 6°16']

27—6°4'0 N—14°32'27 W [F]

28—5°58'0 N—13°55'47 W [F]

29—5°47'0 N—13°11'11 W [F]

30—5°5'0 N—12°20'13 W [F]

Mai 1816

1—4°35'0 N—11°25'15 W [F]

2—4°38'0 N—11°25'26 W [F]

3—4°37'0 N—10°59'40 W [F]

4—4°29'0 N—9°51'50 W [F]

5—3°53'0 N—8°28'45 W [F], Cape Palmas

6—3°19'0 N—6°52'22 W 0) [F]

7—3°15'0 N—3°33'55 W [F]

8—2°52'0 N—1°27' 7 W [F]

9—2°34'0 N—0°0'38 W [F]

10—2°28'0 N—1°30'30 E [F]

11—2°13'0 N—1°59'0 E [F], [J : 2° 1/2 N]

- 12—2°4'0 N—23°6'0 E, chron. (2°57'0 ○) [F]
 13—2°24'0 N—3°3'15 E [F]
 14—2°25'0 N—3°48' 22 E [F]
 15—1°53'0 N—5°22'16 E [F]
 16—1°58'0 N—7°4'15 E [F], Principe en vue au SE à 12-14 *leagues*.
 17—1°48'0 N—7°14'30 E [F]
 18—1°31'0 N—6°9'45 E [F], São Tomé en vue.
 19—1°8'0 N—6°54'0 E chron. (7°26'30 ○) [F]
 20—0°41'0 N—6°48'52 E, chron. (6°18'52 ○) [F], São Tomé au S 1/2 E à SSW
 3/4 W.
 21—Pas de position indiquée [F]
 22—0°21'0 N—5°49'37 E [F]
 23—0°6'0 S—4°28'7 E [F]
 24—0°21'0 S—3°53'45 E [F]
 25—0°19'0 S—4°56'15 E [F]
 26—0°21'0 S—6°9'52 E [F]
 27—0°15'0 S—7°1'37 E [F], São Tomé de nouveau en vue, au . . . "NE". (en
 réalité, plutôt au NW?)
 28—0°38'0 S—7°50'0 E [F]
 29—1°22'0 S—8°19'0 E [F]
 30—1°36'0 S—8°46'37 E [F]
 31—1°51' S—9°25' 30 E [F]

Juin 1816

- 1—2°0'0 S—9°29'22 E [F]
 2—2°19'0 S—9°23'45 E [F]
 3—2°10'0 S—9°57'0 E, chron. (10°10'0" ○* [F] et 9°29' [Hg, p. 489] la côte
 d'Afrique en vue.
 4—2°13'0 S—9°58'7 E, chron. (9°25'37 ○) [F]
 5—2°14'0 S—9°55'15 E [F]
 6—2°26'0 S—9°3'0 E [F]
 7—2°31'0 S—9°15'7 E [F]
 8—2°41'0 S—9°16'0 E [F]
 9—2°51'0 S—9°8'52 E [F]
 10—2°58'0 S—9°21'22 E [F]
 11—3°5'0 S—9°36'15 E [F]
 12—3°14'0 S—9°12'22 E [F]
 13—3°15'0 S—9°38'0 E [F]
 14—3°26'0 S—8°47'7 E [F]
 15—3°28'0 S—8°18'15 E [F]
 16—3°27'0 S—8°52'45, chron. (9°4'0 ○) [F]
 17—3°12'0 S—9°59'30" E, chron. (10°7'30 ○) [F]
 18—3°24'0 S—10°44'30" E [F]
 19—3°40'0 S—10°54' 0 E [F]
 20—3°42'0 S—10°47'45 E [F]

- 21—3°42'0 S—10°43'15 E [F]
 22—3°42'0 S—10°53'0 E [F]
 23—3°42'0 S—10°59'0 E [F]
 24—3°34'0 S—11°13'0 E [F] (3°34' S—11°13'36" E [Hg, p. 492])
 25—3°49'0 S—11°5'0 E [F]
 26—4°8'0 S—11°14'30 E [F] (11°15'22" E [Hg, p. 492])
 27—4°9'0 S—11°37'0 E [F] (11°38'37" E [Hg, p. 493])
 28—4°24'0 S—12°11'0 E [F], [1 : 4°30', devant Loango]
 29—4°44'0 S—12°14'0 E [F]
 30—5°2'0 S—12°15'30 E [F], mouillage devant Malemba Point

Juillet 1816

- 1—5°17'0 S—12°10'15 E [F]
 2—5°30'0 S— ? [F]
 3—5°37'0 S— ? [F]
 4—Au large de Cabinda (mouillage)
 5— id.
 6—5°40'0 S— ? [F]
 7—6°5' S — ? [F]

Mouillage l'après-midi devant Shark Point (P. Padrão, ou S. Antonio) sur la rive gauche de l'embouchure du Congo.

On remarquera, d'après le croquis, qu'un certain nombre de points méridiens obtenus se placent à l'intérieur des terres. Smith (Hc, p. 260) l'avait noté mais en incriminant seulement les cartes utilisées : " The longitude of this coast is very erroneously marked on the charts, so that according to the most recent, and we may suppose the best, it appeared from several good lunar observations, we should have been sailing inland to a considerable distance ". Mais comme les positions observées restent " continentales " même sur les cartes modernes, il faut bien se demander si l'erreur ne pourrait pas également provenir du degré de précision des observations.

La remontée du Congo devait se révéler difficile ; la " *Dorothy* "—" that brute of a transport " dira Tuckey—devra rester dans l'estuaire, le " Congo " et une flotille d'embarcations poursuivront vers l'amont. On est au célèbre " Fetish Rock " le 25 juillet, à Embomma (Boma) le 3 août ; le " *Congo* " restera mouillé dans la région, la flotille continuant sa route le 6 août pour remonter jusque vers Nokki, mais se verra arrêtée par les rapides de Yellala ; il va falloir abandonner la navigation et continuer, le 20 août, par voie de terre, sur Kullu et Inga ; mais les difficultés deviennent telles, à tant d'égards, que le 10 septembre, à " Soondy N'Sanga ", le petit groupe parvenu jusque là (Tuckey, Hawkey, Smith) se voit contraint de faire demi-tour pour atteindre le " *Congo* " le 17 et la " *Dorothy* " le 18.

Mais déjà sont morts : à Boma, Tudor (29 août), Cranch (4 Sept.) et Galwey (9 sept.) ; Smith mourra le 22 sur la " *Dorothy* ", puis Tuckey le 4 octobre¹⁴ et Hawkey le 6¹⁵ ; les deux navires arrivaient à Bahia le 29 octobre, après une traversée de 28 jours.

¹⁴ Le 3 *vide* Leyden, 1817, p. 507

¹⁵ Le 5 *vide* Leyden, 1817, p. 507

IV. LES TEXTES ZOOLOGIQUES

On trouvera ci-dessous les principaux textes zoologiques que contiennent les papiers de Cranch, complétés, à l'occasion, par des extraits des récits de Tuckey et de Smith.

J'ai bien entendu respecté les graphies originales¹⁶, la seule modification apportée étant la mise en italiques des noms latins d'animaux, à la fois dans les transcriptions de manuscrits et dans les citations d'imprimés, ce qui, je crois, facilitera la lecture ; j'ai dû également, parfois, préciser un peu la ponctuation.

1° *Remarks on Animals &c.*

On a vu plus haut qu'il existe deux documents portant ce titre [A, *s.d.* et B, June 29, 1816] : sans être identiques ces deux textes ne m'ont cependant pas paru mériter une publication *in extenso* séparée et j'ai donc essayé de les combiner, en suivant l'ordre chronologique, jour par jour quand cela aura été possible ; des extraits des journaux de Tuckey [H b] et de Smith [H c] sont ajoutés là où ils ont paru nécessaires.

Sans date, mais évidemment en mars, dans la Manche.

[1] "*Larus canus*, very plentiful following the ship & picking up with great dexterity any food thrown overboard".

"*Larus fuscus*, often in company with the preceding species but the proportion in number certainly not more than 1 to 10".

"About 20 miles SW of Scilly I saw 4 or 5 of a species of gulls which I conceived to be *Larus argentatus*—Also a few of *Procellaria Pelagica* & a single specimen of *Procellaria puffinus*" [A, p. 1 ; cf. B, p. 1]

". . . the Naturalists became most grievously sea-sick" (H b, p. 8).

March 20

"March 20. In the forenoon when we were about 30 miles from Land (Scilly being the nearest to us) a *Motacilla alba* flew by us & a Chaffinch¹⁷ perch'd on our rigging—Most probable these birds were blown of [*sic*] by a late gale of wind [A, p. 1 ; cf. B, p. 1].

"*Larus canus* ne disparaîtra que le 23 " when Cape Finisterre, the nearest land, was 200 miles distant" (H b, p. 8-9).

March 26

"March 26. Several of the common Porpoise¹⁸ were seen along side [A, p. 1]".

March 27**March 28**

"28. A Turtle taken & carried on board the Congo. I think the *Imbricata*¹⁹.

¹⁶ A une exception près, celle du mot bonito (pl. bonitos) dont il était souvent impossible de préciser l'orthographe manuscrite, d'ailleurs indécise, de Cranch.

¹⁷ *Fringilla Celebs* [B, p. 1]

¹⁸ *Delphinus Phocaena* [B, p. 1]

¹⁹ Logger-head (*Testudo caretta*) d'après H b, p. 9, donc *Caretta caretta* (L. 1758), ce qui paraît plus vraisemblable.

From this animal were taken several *Lepas*, which not only adhered by the peduncles to the coriaceous covering but also about the neck &c of the Turtle. No. 1. 2 on the lead & 595 & 1020 mark'd on the bottles are a few that were taken of [*sic*]. I consider them as 2 distinct species, the one perhaps the *Lepas anatifera* of Linne & the other the *Lepas membranaceus* of Montagu " [A, p. 1 ; cf. B, p. 1 : *L. membranacea*].

March 29

March 30

" 30. A few Mollusca passed along side, such as Portuguese Men of War &c but could not take any. Saw a species of gull at some distance, 2 others were also seen, we were at this time not many Leagues from Madeira. A shoal of Porpoises came along side at night " [A, p. 1 ; cf. B, p. 1 : *Holothuria Physalis*, *Salpa* &c, *Delphinus Phocaena*].

" After losing our English Gulls, two birds only were seen on the Day before making Madeira²⁰, the one a large bird resembling a raven, the other an ash coloured gull " (H b, p. 10).

March 31

Madère en vue (H b, p. 10 et H c, p. 233).

April 1

April 2

" For the last few days we have seen but little that could be considered as remarkable on the ocean. A number of porpoises tumbling about the vessel ; two large birds, the species of which, at the distance we observed them yesterday, could not be determined ; some *Medusae*, probably *Medusa pellucida*, but of which we have not been able to catch any, were all of the animal creation we got sight of. On board the Congo I saw a small whale, also a small turtle covered with two or three species of *Lepas*, which we dissected, and a small species of *Cancer*, probably the *Cancer fulgens* of Sir Joseph Banks²¹ " (H d, p. 234 : le Prof. Smith avait embarqué sur la Dorothy ; il est ici sur le Congo).

April 3

" April 3. A few *Medusae* were taken this day in a small nett I threw out along side, they were so pellucid that when immersed in salt water were scarcely discernable, each possessed [*sic*] 4 tentacula & these were very slender. From the extremity of one point to the other not above 4 inches.—A specimen also of *Helix Janthina* & a *Nautilus spiralis* were drawn up in the nett. The former shell is to [*sic*] well known to need any remark but as this had the animal inhabitant which I apprehend is not often found I shall describe it.—The animal is dusky tinged with bluish. Tentacula 4, the aperture of the mouth is strongly dentated with long curved teeth & can

²⁰ Donc le 30 mars.

²¹ *Cancer fulgens* Banks ex Macartney (*Phil. Trans.*, (100), 1810, p. 262, pl. XIV/1-2) paraît un Euphausiacé.

scarcely be withdrawn within the shell.—Took also 2 more of *Nautilus spiralis* & 2 Portuguese Men of War, & with one of the latter a small animal preserved in Bottle no. 328. Lead no. 3, which answers to the following description—Mouth central placed on the underside & surrounded with numerous tentacula, a thin membrane of a rich blue colour surrounds the margin extending over $\frac{1}{3}$ of the diameter of the shield & which probably can be [2] distended wholly over it according to the will of the animal ; the shield is elliptical, of a pale horn colour with numerous concentric tuberculated lines which are intersected by a deep marginated groove running transversely across the shell ; from the ridge of the back rises obliquely a membranaceous transparent, pyramidal [*sic*] crest, at the apex of which extend two fimbriae [*sic*] of a rich blue colour. Length of the animal $\frac{2}{3}$ of an Inch, breadth $\frac{1}{2}$ Inch, height of the pyramidal crest $\frac{1}{3}$ Inch—The generic characters agree with the *Vellelella* [*sic*] of Lamarck—On the 5 [April] we procured several more of these animals of inferior size : they were floating near the surface with the crest erect above the sea ; the tentacula extend beyond the margin ; when placed in bucket of sea water their locomotion was scarcely perceptible [*sic*]” [A, p. 1–2 ; cf. B, p. 2]
[au crayon dans la marge : No. 4 *Vellelella* 452]

“ . . . as the scientific gentlemen were now pretty well recovered from their sea sickness . . . the tow-net was put overboard and collected some of these animals, all of the *Vellelella* genus”. (H b, p. 9).

“ The towing net was now become tolerably successful, taking up from time to time various species of mollusca, such as the Portuguese men of war, (*Holothuria physalis*), *Vellelella mutica* (La Marc), *Thalys trilineata* (ib.) besides some testacea, viz. the *Helix ianthina*, with the living animal ; many dead shells of the *Nautilus spiralis*, &c specimens of all which were preserved by Mr. Cranch.

“ The *holothuria* made its first appearance on the 4th instant in latitude $24^{\circ}13'$, longitude $18^{\circ}31'$, temperature of the atmosphere at noon being 68° , of the surface of the sea 65° . These animals continued more or less abundant until past the Cape Verde islands, when they entirely disappeared ” (H b, p. 11).

“ The sea begins to exhibit a greater abundance of animals. Cranch is at length preparing to fish up whatever he can catch. In the last few days we have constantly seen and caught a great number of Portuguese men-of-war (*Holothuria physalis*) ; also a small eatable²² *Velila* [*sic*] (which I sketched) ; a *Salpa* ? which emits light and a *Medusa*, with four tentacula. On board the Congo I saw a *Loligo vulgaris*, and a fragment of a small *Nautilus*, covered by a species of *Lepas* ” (H c, p. 235, probably le 3 avril).

April 4

“ April 3²³. Taken in the nett a small species of *Cancer* mark'd among *Crustacea* No. 1 ; it is nearly allied to the *C. hexapus* of Linneus & Pennant, but evidently distinct from the form of the margin in front of the shield ; it appears a young female ” [A, p. 2 ; cf. B, p. 2].

²² Il n'y a cependant aucun doute sur l'adjectif . . .

²³ Sans doute le 4, comme l'indique B, p. 2 : “ 4. Took a small *Cancer*, very like the *C. Hexapus* of Pennant ”.

April 5

" 5. A specimen of *Oniscii* or some genera approximating to it, mark'd No. 2" [A, p. 2].

April 6

" 5.²⁴ A number of Portuguese men of war [*blanc*] were taken this day & several hundreds were seen floating along side. Some of us were severely punished by making to [*sic*] free in examining those animals. They appear capable [*sic*] of inflicting the pain only from those filaments [*sic*] or threads which extend like the tentacula but are most probably ova ; the sensation occasioned by the wound is very similar to the sting of the common nettle but continues much longer & is more violent ; it produces considerable inflammation which does not wholly subside for some hours—The [*sic*] appear beautiful animals as they swim along on the sea ; the whole of the air bladder is raised above the surface on which is a thin membrane, erectable at the will of the animal ; this at the extreme edge on back is of a bright flesh colour & of a cuneiform figure ; the tentacula & strings of ova which radiate from beneath are of a deep blue purple colour, some of the lines of ova measured upwards of three yards—On examination of some of the parts with a microscope innumerable pellucid globules were discovered & which are probably *Medusae* on which it feeds ; the largest taken did not exceed 7 Inches in the length of its inflated bladder. A few we put in sea water had evidently the power of contracting or distending the air bag which floats them on the surface ; whether [*sic*] they possess it sufficiently to enable them to sink much below the surface I have yet had no opportunity to ascertain. "

" No. 4 lead 452 on the bottle contains several *Vellela* " [A, p. 2 ; cf. B, p. 2 : *Holothuria Physeter*].

April 7

" 5.²⁵ Many of the *Nautilus spiralis* were taken but all dead specimens ; to most of them were found attached 2 if not 3 species of *Lepas*, one of these is evidently the *L. Fascicularis* Montagu, the other to me a species unknown, unless it should prove the *L. sulcata* described & figured in Test. Britannica from a few specimens found on the Devon Coast [3]. They are preserved in bottle No. 5. The peduncle of the *Lepas* like the *sulcata* is a rich blue colour ; the edges of the valves from whence the tentacula protrude are frequently spinous & in others the spines regularly extend over the ridges of the larger valves, in a few the ridges are much more elevated than others & I am almost inclined to think this character will make sufficient distinction to separate them : at least it is a curios [*sic*] variety " [au crayon dans la marge : No. 5. Lead] [A, p. 3 ; cf. B p. 2].

April 8

" April 7²⁶. An individual of the common Flying Fish (*E. volitans*) was taken on board ; it is the first I have yet seen in so recent a state ; it is of small size, not above

²⁴ En réalité, le 6 avril [B, p. 2].

²⁵ Sans doute le 7 avril [B, p. 2].

²⁶ Sans doute le 8 avril [B, p. 2].

9 Inches in length ; the color [*sic*] of the iris white, pectoral fins 5 Inches long. Took also a species of Globe Fish : length rather more than one Inch, the inflated part of a beautiful silvery white. Irides white. Fins white, upper part of the head & Back pale blue, with 9 transverse dark blue bars across the latter ; tail white with a small blue oval patch situate [*sic*] towards the exterior end. It was alive when taken, preserved in Bottle no. 6 Lead [au crayon dans la marge : preserved in N.6 & 4 *Diodon* April 22-23]. Several of *H. Janthina* were also taken, the animals were in all of them & on being immersed in spirit emitted a beautiful purple colour " [A, p. 3 ; cf. B, p. 2-3].

" With the exception of the *Mollusca*, &c taken up by the towing net, our Naturalists had no subjects to employ themselves on since entering the tropic ; a single flying fish (*Exocoetus volitans*), the first seen, was found dead on the deck the morning of making Boavista, but neither dolphin, bonito, albicore, shark, or tropic bird was yet seen " (H b, p. 12).

April 9

Arrivée à Porto Praya, St. Iago

" 9. N. 7 Lead, contains 4 shells : I know no genera referable to their characters ; the shells are horn colour, with them were several Crustaceous Insects, 2 are nearly allied if not *Monoculii*, the N° of the Bottle in which they are is 954 [au crayon dans la marge : on addition to these shells, is a flask-shaped one taken April 17 & dec. that day. N°. 7]. This day I went on shore at a Bay a short distance from Porto Praya, St. Iago ; I collected a few shells such as fragments of Cones, among which were *C. textilis*²⁷ but did not procure one of these species alive ; took a few *Patella*, 2 species. 2 or 3 do. *Turbo* & a few *Echinii* of a species I have frequently seen in collections. Two or three *Crustacea*, one is a Land Crab ; few Insects were seen except *Gryllii* which were plentiful but not above 2 or 3 species ; I saw a pretty species of *Alcedo* but could not procure it. Likewise several of the Falcon genus and on going on shore for the first time saw the Tropic bird (*P. [haeton aethereus]*) I strongly suspect some of them breed in this Island, as we saw them fly into the holes of the Rocks at parts that are inaccessible [*sic*] to man. Eagles certainly breed here " [A, p. 3 ; cf. B, p. 3].

April 10

Porto Praya

" 10. This day procured a single specimen of the *Alcedo* I saw yesterday²⁸. The natives call it Passerine ; the Bill is orange Red ; irides dusky ; throat white ; feathers on the head a trifle elongate forming a short crest on the head & of a deep ash colour ; hind part of the neck rather lighter ; back & wing coverts black ; a line on the upper part of the back, the upper part of the tail feathers & a bar across the wings of a bright mazarine [corrigé au crayon : azur] blue ; on the primary quills a white patch ; under wing coverts & vent orange brown ; legs orange red ; length about 9 Inches. It is not an uncommon bird at Porto Praya & in its neighborhood

²⁷ Le *Comus textilis* Linné 1758 est indo-pacifique.

²⁸ *Corythacola cristata*.

& is extremely tame, suffering us to come very near as they sit on the branches of the yatrofa trees²⁹. On which they most commonly reside. I could not procure the nest although I afterwards shot several of the birds. [4] Of Eagles I saw 2 species one of which was shot by Mr Fitzmaurice from the stern of our vessel & is preserved : it is a species of Fishing Falcon ; I noticed one in the act of pouncing on his prey, it kept hovering a few seconds & then dropt with astonishing velocity in the water & snatch'd up the finny prize with great dexterity. The other Eagle is superior in size & is not uncommon around the town of Porto Praya & in the adjacent mountains : it appears bluish ash color [*sic*] on the back ; the upper margins of the wings & tail black ; I shot at 2 or 3 but was not fortunate to bring one down ; about 4 miles distant inland in one of the lofty mountains I found a nest belonging to this bird : it was built near the summit among the rocks & composed of loose sticks lined on the inside with goats hair & a few other soft materials ; in it was one egg, rather larger than a common fowls, white & almost cover'd with rust colour blotches & spots somewhat like the Kestrils ; the old bird was sitting at the edge of the Rock but flew away before I came within shot ; within 10 yards was found the nest of another Hawk, a specimen of which I shot the evening before on one of the Palm Trees adjoining the town ; this species bears some slight resemblance to the sparrow hawk but is of inferior size ; the eggs are also quite different from that bird, being more round & almost of a uniform red colour. The common swift (*Hirundo Apus*) is not uncommon in the mountains. A number of birds very similar to the common or European tree sparrow were also seen : I shot several ; it has all the habits & manners of the House sparrow, congregates together, has the chirp & other notes so similar that I really suspect is one of these birds ; they breed in some of the trees & are the most common bird on the Island ”.

“ The *Alcedo* I shot is called Passerine by the natives.

“ On the hills I killed a small bird of a buff colour ; the inhabitants call it Pastor : it is a species of Lark, *alanda*.

“ Goats are numerous but I believe they are the property of the natives : in fact their principal riches is goats, pigs, fowls with a small quantity of bullocks ; some flocks of sheep were also seen by a party who penetrated into the more fertile part of the Island than I did.

“ Guinea Hens are not uncommon in some parts of St. Jago, they are generally found in flocks, I saw one of above 50 but the [*sic*] were to [*sic*] shy to come within reach of the gun. The natives told me they lay in wait for them at the watering places which they visit once or twice in the course of the day or at the dusk of evening on the hills the [*sic*] frequent where several are sometimes killed at a shot.

“ The European Quail (*Tetrao Coturnix*) is found here but not abundant ; I did not see more than a dozen, one of which was killed.

“ Monkeys (*Simia sabaea*) are not uncommon on some of the Rocky eminances [*sic*] inland, they are shy & extremely nimble : I saw one but he was to [*sic*] nimble for me to procure.

“ Wild cats are found here, one ran very near me just as I had discharged my fowling Piece.

²⁹ *Jatropha curcas*.

" Insects (that is many species) were scarce, but the *Grylli* were numerous, we took several, I think 3 or 4 species, but 3 of the *Coleoptera*, a few *Ichneumon* & 2 species of Bees which I found on the *Aloe perfoliata*. I saw 2 species of *Papilio*, very small, of a blue color [*sic*] but could not procure either. Many Land Crabs are on the Island, I took a small one. Shells are not [5] numerous ; one of the party took a specimen of *Ven. dione* & another a species of *Spondyli* " [A, p. 3-5].

Le texte B (p. 3) donne quelques détails complémentaires :

" Of Eagles I saw at least 2 species one of which the fishing species is procured, the other species is of large size, of an ash colour on the back, the wings tipp'd with black, 2 other species of Hawks I also noticed one of which is very frequent among the Palm trees. I procured one specimen about 3 miles in the country. I found a nest of the largest Eagle, it contained one egg ; it was built on a verge of one of the high mountains, the female was shot at but unfortunately not killed, the egg was rather larger than the common fowls & entirely covered with rust coloured spots—The Swift (*Hirundo Apus*) is common here, we saw many flying in different parts of the mountains but could [not] ascertain if they breed here, perhaps it may form a resting place for a few days during their migrations from the southward to Europe—*Fringilla domestica* is plentiful here & is equally distested [*sic*] for its destructive properties—In the higher lands I killed a small species of *Alauda* of a buff colour which the natives call pastor. Goats are numerous but all I believe the private property of the natives—Guinea Fowls are found in some of the montaneous districts, but they appeared very shy, I saw a flock of about 50 but could not come near enough to shoot them—One species of monkey (*Simia Sabaea*) is not uncommon in some of the upper parts of the mountains among the rocks, I saw 2 individuals, but they were to [*sic*] shy to get—The European Quail (*Tertrao Cortunix* [*sic*]) is scatteringly found here, one was shot to identify the species. The parts of the Island I was in were extremely barren in Insects. Except *Gryllii* I took almost every species I saw & there [*sic*] do not exceed a dozen—The fish we took in the bay were mullet & a species of Cod, but as accident upset the boat as soon as we had finished fishing I was not able to preserve a single specimen—In the bay adjoining Porto Praya town a few fish were taken amounting to above 7 or 8 distinct species—*Echinii* are very plentiful on the Rocks but mostly of one common species—a few shells were taken but none of interest or apparently of scarcity : *Spondyli*, *Venus*, *Turbo* &c were all the genera that we could refer the few species we collected " [B, p. 3].

April 11

Porto Praya

Quelques Poissons dont " a young white shark (*Squalus carcharias*), barracoota, or barracuda and grey mullet. The others we were prevented from examining by a mistake of the cabin steward, who (supposing they were selected and put by for the purpose) caused these specimens to be dressed for dinner " (H b, p. 32).

" Monkeys are offered for sale by every negro, and unless a prohibition is issued, the seamen will always fill a ship with these mischievous animals. The only species here is the green monkey (*Cercopithecus sabaeus*) " (H b, p. 35-36).

" Cranch had been rambling about the plain, and shot a number of birds. Fitz-

maurice and Galwey, on the first morning [donc le 10], had been very successful in fishing in the bay, but the boat was upset, by which they lost the fishes" (H c, p. 248).

April 12

Départ de Porto Praya

April 13

April 14

"Sunday 14. This day we saw a number of the common Flying fish along side : as far as I could observe, the principle [sic] part of their flight consists in one strong leap & the action of the pectoral fins was very limited afterwards ; the longest I saw out of the water was not above 1/4 of a minute & did not fly above 10 yards ; the greater part merely rais'd themselves a little above the surface & immediately again plunged into the sea. It was curious to observe with what apparent regularity the whole shoal rais'd at the same instant out of the sea & dissapeared [sic] together as if by mechanism ; they were of small size.—A Tropic bird (*P. [haeton] Ethercus*) flew round our vessel several times, the flight of this bird I thought was very like the common Pidgeon & at times is extremely rapid. Seamen call them the Boatswain & the common phrase is [une phrase en sténographie] ; probably the Flying Fish are its principle[sic] food—I was pleased to see a well known species of Swallow (*Hirundo Rustica*), which powers [sic] its melody from the top of our chimneys in England, fly very near us & 3 or 4 times round the ship ; it was so near as to make it impossible to mistake the species & is an additional proof (if any were now wanting) to prove these birds are seen in southern Latitudes at a season from which at a moderate computation they might arrive at the European shores soon enough for the breeding season" [A, p. 5 ; cf. B, p. 4]

"Many porpoises (*Delphinus phocena*), flying fish, and tropic birds were now seen, and a swallow rested on the yards when 250 miles distant from the land" (H a, p. 40 sans date).

April 15

April 16

"Tuesday 16. A number of Porpoises were seen along side this night, some were of very large size. This fish appears to me to swim with great velocity" [A, p. 5 ; cf. B, p. 4]

April 17

"Wednesday 17. Took a fish, 2 Inches. Irides silvery white. Belly & sides blueish white, dorsal fin short. Tail very long ; on the Back & sides several irregular black patches ; it is preserved in Bottles N° Lead 8.—In the same Bottle is another fish taken the next morning (18th) : colour in general deep black, tail fin white ; the dorsal fin consists of 7 spinous rays which are very slightly attached together by any membrane ; abdominal fins small but elongate, pectoral d° narrow & of small size.

Pupil of the Eye black. Irides grey. The upper Jaw is truncated and the under jaw projects much beyond it & is rather bent upwards at the end ; both jaws are arm'd with long curved fangs, the 2 in each of the exterior and of the Jaws nearly 3 times as long as any of the others ; those in the under [*jaw*] largest. The branchiae appear regular & uniform & have about 20 denticulations, the fangs in the mouth of the fish are set in triangular directions & consist of about 40 in both jaws—In the same bottle. Fish. Body very compressed, pellucid & of a gelatinous texture. Length about 8 Inches, breadth about $\frac{1}{4}$ Inch, mouth transparent but appears rather [un mot illisible], the under jaw longest, the upper part not unlike the upper mandible of a hawk, each arm'd with numerous denticulations which incline outward ; the Eye is small, pupil & exterior edge of the Iris black ; the Iris of a bright silvery white ; it appears to posses [*sic*] but one intestinal canal which appears like a fine white cord running the whole length of the body & which on one side branches into a few very minute spotted lines that are only discernable by the aid of a Lens & are not above 1 line in length ; we took 4 of this species—In the same bottle is an animal, orbicular, mouth central & placed beneath, underside brown. Back or upper part consists of numerous contractile ridges which radiate from the center & give the exterior margin rather a denticulate appearance ; colour of the sides bluish [6], upper parts brown mix'd with purple, diam. rather more than $\frac{1}{2}$ Inch, 4 are preserved—Small animal. Shell long oval or rather flask shaped, pellucid & white, the inhabitant has some appearance of a *Sepia*. Length $\frac{1}{3}$ Inch, width $\frac{1}{3}$ its length³⁰, only one taken—We took several *Crustacea* at the same time, they are preserved in the C. [abinet] drawer N^o—. Eyes placed close together. Palpi 4, articulations long, thorax oval & very spinous, the abdomen consists of 6 joints with a sharp spine on the 5 first, from the last joint extend 2 long tails which are flat & edged with red.—Took also a species of *Squalus*, length about 15 Inches, which we suspect to be new [au crayon : Now pres^d. in Bottle No. 13] ” [A, p. 5-6 ; cf. B, p. 4].

April 18

“ The towing net, which was kept constantly overboard, gave us for the first time on the 18th, great numbers of perfectly diaphanous crustacea, resembling insects of glass ; they were of four different species, and considered by Dr. Smith as belonging to the genus *Scyllarus* (La Marc, p. 156). We also took a small squalus, of a species new to us, and which from the form of its teeth may be named *Squalus serrata* ” (H b, p. 40 : date ?).

April 19

April 20

“ April 20. Took 3 fish apparently belonging to the Gen. *Chateodons* [*sic*] Length about 2 Inches. Irides yellowish white. Pupil black, upper part of the head & back dark blue green, belly silvery but ting'd with yellowish, 2 dorsal fins, the first consists of 6 rays, the 3 nearest the head largest ; behind this fin are 2 small sharp spines, from thence the other fin continues uninterrupted to the tail. The pectoral

³⁰ “ . . . width $\frac{1}{2}$ Inch when taken ” [B, p. 4].

fins are small & tongue shaped, the abdominal fins are short ray'd but the fin extends to one half the length of the body, the thoracic fins are oval with about 6 Rays in each. pres^d. N° 9 Lead " [A, p. 6-7 ; cf. B, p. 4].

April 21

" April 21. A few fish were observed round the vessel which seamen call Skip Jacks " [A, p. 6 ; cf. B, p. 4].

April 22

" April 22. Pres^d. Lead N° 10. Fish. Body & Head black, fins nearly white, particularly the tail. Dorsal fin consists of 15 Rays, those nearest the anterior part of the back considerably longest. Pectoral fins are long but very narrow & have each about 12 rays, abdominal fin very similar to the pectoral, ventral fin of 7 rays. Tail swallow shaped, the base of the membrane alone black, upper side of the head compressed & obtuse, a hollow spine projects over each eye, under jaw is considerably beyond the upper & arm'd with about 22 fangs, the extreme ones three times as long as the others & very much curved, in the upper jaw about 20 fangs those near the extreme part of the beak very long & answer to the fangs in the under jaw, at the exterior angle of the Eye a small oval yellow patch from which proceeds a branchio [. . .] membrane which is regularly dentated on the inner margin. Length of the largest 2 Inches, breadth at the widest part of the body $\frac{1}{4}$ Inch. The body is rather compressed, the Eyes are small, the Irides white. Pupil black, from the abdominal to the Vent fin are 2 rows of small silvery round spots—In the same bottle is a small specimen of the Flying fish, probably the young of *E. volitans*, the body appears minutely speckled with grey. Length 1 $\frac{1}{2}$ Inch, taken with the preceding. Also 3 shells.—*H. Janthina*—*Cheteodon* [*sic*]. Irides yellowish. Tail tinged with flesh colour, the upper part of the back is irregularly patch'd with small black patches. The Belly particularly the part that holds the intestines is ting'd with green gold. Length about 1 Inch [quelques mots en sténographie]. The same day we took a fish, probably belonging to Gen. *Balistes*. Length 5 $\frac{1}{2}$ Inches. Colour dull olive covered with irregular white spots, pupil of the Eye black. Irides grey, pectoral fin yellowish brown, dorsal fin of 25 rays, spotted the same as the body. Tail fin nearly black with 2 rows of white spots. Ventral fin contains 20 rays, a large spinous process & a few small spines anterior to the ventral fin, pectoral fin 15 double rays, mouth very small & orbicular, palate white.—A Shark (*Squalus glaucus*) was also taken at a hook the same day, it was near 7 feet in length³¹, it was soon secured & the actions of the seamen verified the accounts I had read. The tail was soon taken of [*sic*] as the second dangerous [7] member it possessed, soon after the belly was opened & yet it continued biting any substance that was placed near its voracious jaws ; on opening it proved a female, a long string of ova were taken out & several young about 2 Inches in length, 3 of them are preserved in bottle N° 11—The demolition of this general depredator was so rapid that I had not time to examine it attentively ; such a well known species however needs few additional remarks ; as they were drawing it up from the water I saw 2 or 3 fish apparently

³¹ " *Squalus glaucus* taken, length 4 $\frac{1}{2}$ feet . . . " [B, p. 4].

adhering to it & these the seamen call pilot fish, some of them I suspect were a species of Sucker (*Echeneis*), none were however brought on the deck—Adhering to the pectoral fins of the shark were a number of *Crustacea*, perhaps *Onisci*, many of which are preserved in Bottle N° 12 & a few are in the drawer of *Crustacea* N° —. I observed none on any of the other fins tho [*sic*] probably they extend occasionally to them all." [A, p. 6-7 ; cf. B, p. 4].

April 23

April 24

April 25

"Thursday 25. This morning 2 Sharks were taken (*S.* ———), they were both of small size, the largest was not above 4 feet long, in the stomach of one was a Flying fish & in the other was a few pieces of the first shark taken this day.—Attached to one of them were 4 sucking fish (*Echeneis* [*sic*] *remora*), the largest was rather above one foot in length & the smallest about 2 Inches, the only difference [*sic*] in structure was the largest had one more stria on the back than the least. 18. 17³². The general colour of this fish is of a dingy black, the Eyes are small & dusky, pupil black, around the Irides is a narrow silver line on the margin, the under jaw projects considerably beyond the upper, both are armed with numerous curved teeth, in the under jaw the 6 first from the corner of the mouth are disposed in pairs, in the upper jaw the teeth are numerous but irregular, a second double row is disposed in the backer part or palate of the mouth—at the base of the pectoral fins & exterior margin the fin is white, anal fin contains 22 rays. Dorsal fin very near the tail. Length of this specimen 9 Inches. pres^d. in Bottle N° 13. "

"A very large shoal of Porpoises were seen at some distance from the vessel this afternoon, at a moderate estimate there were many hundreds.—We also saw a few birds, but they were to [*sic*] far distant to ascertain the species but most probably Gulls or Tropic birds" [A, p. 7 ; cf. B, p. 4].

"The first bonitos (*Scomber pelamis*) were seen on the 25th, in latitude 5°53, and many cavally or shipjack [*sic*] sported after showers of rain, while flocks of tropic and other oceanic birds hovered over the riplings they caused, in order to seize the flying fish frightened from their element" (*H b*, p. 41).

"Our only amusement now was the taking of sharks, all of the white species (*carcharias*), except one of the blue (*glaucus*), and the only one seen during the passage ; the largest of the former was a male, ten feet long, the latter a female impregnated, seven feet long ; she was unattended either by pilot-fish or sucking-fish, while the white sharks had many of both accompanying or attached to them" (*H b*, p. 41, pas de date).

April 26

"Friday 26. A white shark taken this morning about 4 feet long, we also hooked another of larger dimensions but this fellow had the fortune to escape. 2 Baracota or

³² Donc probablement *Remora remora*.

Albicores past along side, one of which was harpooned but afterwards got of [*sic*]; several Dolphins were seen at the stern but none taken.—We saw a few³³ of the Stormy Petrel (*P. Pelagica*):” [A, p. 7].

April 27

“Saturday 27. Two white Sharks³⁴ taken. A flock of Tropic birds passed near us, a few stormy Petrels were seen” [A, p. 7].

April 28

“Sunday 28. A few stormy Petrels were seen & Albicores & a small white Shark was taken” [A, p. 7].

April 29

“Monday 29. Tropic birds. Took a few *Crustacea* pres^d. in No. 12 & 2 *H. [elix] Janthina* & 3 small soft animals (Mollusca)” [A, p. 7; cf. B, p. 5].

April 30

“Tuesday 30. Three Mollusca. Three black fish with white fins, the same as be-[8]fore pres^d. in bottle N° —” [A, p. 7-8].

May 1

“May 1. Took in the nett 2 specimens of shrimp answering this description. Antennae more than twice the length of the body, composed of 2 long joints³⁵ at the base (on which are several sharp spines) and from thence consist of numerous fine articulations & which enlarge near the apex into an oval form, or not unlike the bowl of a tea spoon, each of the fine joints have a slight spine. The Eyes are black & pedunculated but the peduncle is very short, projecting over each Eye is a short spine & immediately behind which are two others; the sides of the thorax are smooth but raise in a ridge on the back, the first part of the Palpi is composed of 3 joints which are rather large & these are divided into 2 parts, that nearest the internal part of the antenna largest. Legs 10. The anterior & posterior pairs much the shortest, nails simple & sharp & of moderate length. Legs uniform in structure. Abdomen of 7 joints, the tail one largest which is rounded with an entire margin. Colour nearly white or very pellucid excepting the sides of the abdomen which are tinged with red & the extreme or spoon shaped part of the antenna which are brown. Length 1 Inch, bread[th] at the thorax about 1/3 the length—*Squalus*³⁶ the same species as before noticed & pres^d. in Bottle N° 11. This is of smaller size” [A, p. 8; cf. B, p. 5 et C, fig. 1, p. 32, non reproduite].

May 2

May 3

“May 3. Saw a shoal of Grampusses, within a few hundred yards of the vessel, some of them appeared of large dimensions—Took a small specimen of the Pilot

³³ “Three or 4 . . .” [B, p. 4]

³⁴ “Two sharks (*S. characias* [*sic*] taken” [B, p. 4].

³⁵ “3 long joints . . .” [B, p. 5].

³⁶ “*Squalus* supposed new” [B. p. 5].

fish³⁷, length about one Inch, it is pres^d. in bottle N^o glass 1909 " [A, p. 8 ; cf. B, p. 5].

May 4

" May 4. This day we saw many Tropic birds in flocks & some were floating on the surface of the sea & others were darting with great velocity apparently on fish near the ream [*sic*] of the water ; with these birds was also seen a large brown bird with a very long fork'd tail, which was supposed to be *Pel. aquilus*³⁸ or the Frigate bird, it came more than once within 200 yards of us, but the apparent expanse of the wings did not appear to me to be within many feet of what it is said this bird possesses [*sic*] (14 feet) & I should think 8 feet rather beyond that under the extent of the wings in this individual, it flew with great ease & swiftness & at times appeared almost stationary in the air as some species of Falcon do. It frequently darted down among the Tropic birds as if to attack them, or more probably to take from them any finny prey they had taken—Numbers of Flying & other fish were seen around were [*sic*] this bird & the Tropic bird were congregated together.—Some few Bonitos & Skip Jacks were seen round us " [A, p. 8 ; c.f. B, p. 5].

May 5

" May 5. A specimen of the Albicore (*Scomb.* —³⁹) taken by one of the seamen, I think it was rather upwards of 20 pounds & more than 2 feet long ; an immense shoal of Skip Jacks & other fish were seen at a little distance from the vessel " [A, p. 8].

" A large shoal of the bottle-nose porpoise or dolphin of naturalists (*Delphinus delphis*) was seen ; flocks of tropic birds, and a few men-of-war birds (*Pelicanus aquila*) now also accompanied our course ". (H b, p. 43).

May 6

" May 6. Two or 3 Albicores & Bonitos were caught this morning at the [9] bows of the vessel by the seamen ; one was taken with a grain a species of harpoon, which is fastened to end of a pole to which is added a quantity of lead to make the weapon more heavy & powerful. The others were caught at a hook baited with a rude resemblance of a Flying fish & which is allowed by the fisherman just so skim the surface of the sea. The fish taken were inferior in point of size to the one we yesterday procured. They both appear at first sight very nearly connected, the Albicore (*Scomb. Thynnus*) answers this description :—First Dorsal fin consists of 14 Rays, the three first considerably largest, the sides of each ray strongly tinged with orange, on the back is a sulcus or groove immediately below this first fin & which is capable of receiving the whole of the rays which the fish can at will compress within it & it is most commonly in this position on the death of the animal ; immediately behind this is another dorsal fin which consists of 13 close set & thick rays, this fin is also ting'd with orange on the exterior margin, from this to the tail are 8 small

³⁷ *Gasterosteus ductor* [B, p. 5].

³⁸ *Pelicanus Aquilex* [B, p. 5].

³⁹ *Scomber Thynnus* [B, p. 5].

spurious fins which in their recumbent state appear triangular in form but on being rais'd the base appears much narrowest & the fin gradually widens to the exterior edge in an irregular form to the exterior edge, these fins are placed nearly equidistant from each other & occupy the whole space between the second dorsal fin & the tail. The tail is large & crescent shaped & has at least 40 rays, the last 6 on each side considerably largest, on each side the tail is a lozenge wedg'd shaped membrane that projects from the sides & extends to the 2nd spurious fin ; the pectoral fins are scythe shaped & long & consist of 34 rays each, the fish has a groove on the side of the body, that receives this fin into it nearly its whole length, they were about 5 Inches long, the ventral fins are placed rather behind the pectoral & consist 6 strong short rays each, the anal fin has 13 rays which are placed very close to each other & guarded with a strong thick membrane, behind this are 8 small spurious fins, these as well as the fins on the opposite side of the back are strongly ting'd with orange. Eyes are large. Pupil black. Irides silvery, in some lights appear tinged with gold, the jaws are armed with a single row of small curved teeth & the upper part of the roof of the mouth is filled with very minute bony denticulations & which feel very rough to the touch of the finger. Branchiae 7. Colour of the fish in general of a deep blueish on the back, tinged with purple & other shades, sides very light brown, shaded with about 20 transverse white lines or stripes across the belly & sides, the number is however variable in different specimens, sides & head of the fish nearly smooth, the scales on the back are very small, but are larger near the base of the pectoral fins.—Length of this specimen about 2 feet, circumference [*sic*] at the largest part 16 Inches.—The Bonito differs from the former in a few particulars⁴⁰, the colour of the fish is nearly the same except the fins of this are very slightly if at all tinged with orange.—The first dorsal fin has 16 instead of 14 rays & there are but 14 spurious fins, 7 on each side the tail, the sides of this fish are more silvery & have 4 dark stripes on each, which extend the whole length of the body. The Pectoral fins are also shorter. But one strong specific character which Capt. Tuckey observed is in the roof of the mouth which in this species is quite smooth.—From the stomachs of some of these fish were taken a few flying fish, I believe their most common food.—& 2 other kinds of fishes, one was a small Globe fish.—They appear very active fish in the water & very tenaceous of [10] life : that one lived for an hour after it was emboweled.—Those we had dressed were dry & rather strong tasted, very far inferior to the common Mackerel.—We this day saw a great number of Tropic Birds & 4 or 5 of the Frigate birds, but not apparently larger than the former in size, not. May 4. One of these was seen to pounce at & take a Flying fish as it was leaping from the sea " [A, p. 8–10 ; cf. B, p. 5].⁴¹

⁴⁰ D'après Tuckey (H b, p. 44) l'Albicore aurait 8/8 pinnules et le Bonito 8/7.

⁴¹ En ce qui concerne l'identification des Scombrés rencontrés par Cranch, on peut admettre que son " albicore " est notre " albacore ", thon à nageoires jaunes ou Yellowfin (*Neothunnus albacora*) tandis que le " bonito " est la Bonite à ventre rayé (*Katsuwonus pelamis*) ; ces deux espèces, me signale E. Postel, se rencontrent souvent ensemble et dans la proportion signalée par Cranch ; d'autre part, il se trouve, me fait remarquer E. Postel, que la figure de la pectorale de l'Albicore de Cranch (A, p. 11) semble en fait être celle d'un Patudo (*Parathunnus obesus*), espèce dont on peut trouver des individus mélangés aux bancs d'albacores et dont les jeunes sont difficile à distinguer de ceux de ces derniers : Cranch, par conséquent, qui ne voyait depuis deux semaines que des albacores, sera tombé sans le savoir, le jour où il veut dessiner une pectorale d'albacore, sur un patudo. Quant au " cavally or shipjack " (H b, p. 41) ou " Skip Jacks " (A, p. 6 ; B, p. 4) on ne peut rien en dire, faute d'éléments d'identification.

May 7

" Tuesday 7. Took a specimen of *Ex. volitans* in the nett along side ; adhering to the pectoral fin was a species of *Oniscii*. Length 1 Inch, breadth 1/4 do. Body oval composed of 7 segments, the 4 & 5 from the head rather the widest. The tail consists of 6 joints & is not above 3/4 the width of the body & at the extremity is rounded & on its sides are 2 appendages, each has a joint from which issue 2 hooked points, these are about 1/8 on an inch in length, affixed to the body are 14 Legs 7 on each side, the 6 & 7 more distant than the anterior ones, the Legs consist of 3 joints or divisions, the first entire, the second has 3 small round articulations & is terminated by a simple hooked claw. The antennae are 4 & are rather strong for this genus, they consists [*sic*] of 5 articulations each & taper to the point, the head is rather truncate at the point or lip & a small obtuse spine projects over each eye. Eyes black & oblong. Colour dirty blue tinged with brown & the margin of each segment lightest. —If it proves a new species I propose the specific name of *volitans*. A sketch is given of this Insect below [lég. en sténographie]⁴². We this day saw also several Alicores & Bonitos. Also took a few Crustacea & which are preserved in Bottle Glass No. 1909 " [A, p. 10 ; cf. B, p. 5].

May 8

" Wednesday 8. A species of fish taken, it is pres^d. in Bottle 1909, length when taken about 8 Inches " [A, p. 10 ; cf. B, p. 5].

May 9

" Thursday 9. Numbers of Bonitos & Alicores were seen around us & 2 small Flying fish were drawn in my net (*E. volitans*) " [A, p. 10 ; cf. B, p. 6].

May 10

" Friday 10. An immense shoal of Alicores & Bonitos came almost alongside, there were some thousands.—A few Tropic & other birds were seen.—At night great numbers of fish were close to our stern but apparently at great depth, it was suspected they were flying fish " [A, p. 10 ; cf. B, p. 6].

" From the third to the tenth of May we had a southerly wind, that carried us far into the Bay of Guinea. Innumerable shoals of fish of different kinds, but chiefly Alicore and Bonitos, were swimming in all direction. Every day some of them were caught. Flocks of birds belonging to the tropical regions and now and then some men-of-war birds were seen " (H c, p. 255-256).

May 11

" Saturday 11. Took a few common flying fish⁴³ with several of the long compressed fish pres^d. in 1909, probably the former were part of the shoal we saw the night before under our stern " [A, p. 10].

⁴² Cf. Pl. III, fig. 2.

⁴³ " they were of small size " [B, p. 6].

May 12

" Sunday 12. A Bird about the size of a Jackdaw flew several times near the vessel & we thought it would perch on the rigging.—The plumage appeared nearly black. Seamen called it Booby (*Pelicanus*)⁴⁴.—A white Shark taken 6 feet long.—Saw a few stormy Petrels " [A, p. 10 ; cf. B, p. 6].

May 13

" Monday 13. Several Bonitos & Albicores were seen & a few taken.

[11 : figures de la 1^e et 2^e dorsales et de la pectorale de l' " Albicore " = il s'agirait ici d'après E. Postel du Patudo ou Big Eye, *Parathunnus obesus*]. "

[12] [2 aquarelles d'un Cirripède pédonculé (= *Conchoderma virgatum*)] : " this species of *Lepas* was nearly membranaceous the 4 accessory valves small, those near the apex very minute, the others at the sides of the mouth triangular & very white, the general colour was bluish, the peduncle much the darker with 3 darkish brown stripes on each side. "

" A species of Flying fish distinct from *E. volitans* was sent from the Congo for examination. The abdominal fins consist of 6 rays. Pectoral fin about 18 rays but so mutilated it was impossible to ascertain the length or form, ventral 6, behind the ventral fin 9 or 10 long bristly spines probably the rays of a fin.—Dorsal fin situate [*sic*] near the tail with a slight membrane connecting the rays at the base, 12 rays.—Tail similar to *E. volitans* with at least 5 transverse bars on it—This fish has 2 singular thread like appendages to the under lip which are full 4/5 as long as the Body & taper towards the extremity, the pectoral & ventral fins are much further behind in this than in the common Fly⁸. fish, length not above 3 Inches.—Is it *E. Mesogaster* ?⁴⁵ "

" With the above fish was also another answering this description. Pectoral fin of 6 small rays & situate just below the gills.—Dorsal fin near the tail, of 8 rays, the anterior ones longest. Ventral fin has 12 rays.—From the gills to the vent are 4 distinct rows of tubercles, two on each side the line of the belly, consisting of about 24 in each row ; from the commencement of the ventral fin to the tail are 2 Rows of tubercles which in this specimen consist of 15 on each side, from the posterior part of the vent [ral] fin to the tail fin, the body of the fish continues of nearly equal size, the tail is rather forked & appears as if it had been spotted. The mouth is furnished with a single row of very small teeth.—Length of the fish 1 1/4 Inch ; breadth at the widest part 1/4.—Never since taken this species but mutilate—full 2 Inches long. I suspect the spots or tubercles in row [?] are variable " [A, p. 10, 12 ; cf. B, p. 6 et pl. II, fig. 1 et 3].

May 14

" Tuesday 14. Many albicores & Bonitos seen & a few taken. At night 2 birds, a species of the Lin. *Pelicanus* were taken by the seamen on the ship, they call them Booboes⁴⁶, they answer this description. Bill black 2 Inches long from the base of the

⁴⁴ Sans doute *Sula leucogaster*.

⁴⁵ Apparemment un *Cypselurus* juv., cf. pl. 2, fig. 1.

⁴⁶ " 2 birds caught on the rigging, these proved to be *P. soola* of Linneus & the common name they are known to seamen by is Booby " (B, p. 6] : *Sula leucogaster* (immat., car le ventre blanc ne semble pas décrit).

mandibles & rather bent towards the point, margins smooth, tongue long & horny, at the corner of the mouth just at the inner edge there is a patch of orange yellow but this is not discernable until the mouth is partly open, the nostrils are open & full $1/4$ of an inch in length & divide a groove by the side that seems full $4/5$ the length of the upper mandible, the under mandible is slightly carinated full $3/4$ of its length.—Irides dark brown, the front of the head at upper base of the bill is nearly white but increases in shade at the top were it becomes a fine light grey. The feathers surrounding the eyes on the lower sides form a line of perfect white which continues to the posterior angle of the eye were [*sic*] it is interrupted by a small black patch, it commences again on the upper side of this spot [13] and continues to the front of the head. The whole plumage besides is of a fine deep brown, the primary quill feathers nearly approaching to black ; the under wing coverts rather lightest.—Tail feathers 12, considerably rounded.—Length from the beak to the extreme end of the tail 16 Inches.—Expanse of the wings 2 feet 8 Inches.—Weight about 7 ounces.—Legs rather short & small but webb'd almost to the claws, the middle claw is slightly serrated on the inner side.—The female differs from the male only in the colour on the head which is much less white on that part " [A, p. 12-13].

" The bird named booby (*Pelicanus sula*) now frequently settled on the yards in the dusk of the evening, and two of them were taken ; the external characters of these birds seem by no means to authorize their being placed in the genus of Pelican. Of the two individuals now taken, the largest measured 18 inches from the point of the bill to the extremity of the tail, and weighed seven ounces ; the plumage a rusty brown, deepest and rather glossy on the upper side of the wing quill feathers, the crown of the head only being of a dove colour, lightest towards the forehead. The upper sides of the wing quill feathers black, the under side a dirty white ; the bill conical, slightly curved ; the nostrils very open, being two wide longitudinal slits on the sides of, and about the middle of the upper mandible ; the eye a dark brown approaching to black, surrounded by a [p. 47] circle of minute white feathers ; three toes full webbed, the fourth toe behind very small, and quite free ; bill and legs black. This specimen on examination proved to be a full grown male.

The second specimen, which was found to be a young female, was somewhat less than the first ; the dove colour on the crown of the head was deeper, nearly mixing with the general brown ; and the circle of minute feathers round the eye was black ; it differed in no other respects from the male. These birds were observed generally in pairs ; they fly close to the water with the neck stretched out and the tail spread " (H b, p. 46-47).

May 15

" Wednesday 15. Numbers of Albicores were around the vessel not less than 31 were taken (Alb. & Bonitos) by the seamen but they were generally of small size " [A, p. 13 ; cf. B, p. 6].

" A number of brown —⁴⁷ indicated that we were not far from land ; and on the 16th in the morning, we came in sight of Prince's island . . . " (H b, p. 256).

" The swarms of albacore round the ship were now such as almost to justify the

⁴⁷ Le mot n'a pu être lu par l'éditeur : il y avait sans doute " boobies ".

hyperbole of their obstructing the ship's way ; and twenty a day was the usual success of our fishery with hook and line, the flying-fish found within them serving as bait. The proportion of bonito appeared to be small, not one being taken to 10 albigores " (H b, p. 47, sans date mais avant le 16 mai).

" After passing Cape Palmas and entering the Gulf of Guinea, the sea appeared of a whitish colour, growing more so until Prince's island, and its luminosity also increasing, so that at night the ship seemed to be sailing in a sea of milk. In order to discover the cause of these appearances, a bag of bunting, the mouth extended by a hoop, was kept overboard, and in it were collected vast numbers of animals of various kinds, particularly pellucid *Salpae*, with innumerable little crustaceous animals of the *Scyllarus* genus attached to them, to which I think the whitish colour of the water may be principally ascribed. Of Cancers, we reckoned 13 different species, eight having the shape of crabs, and five that of shrimps, and none more than a quarter of an inch in length ; among them the *Cancer* [p. 49] *fulgens* was conspicuous. In another species (when put into the microscope by candle light), the luminous property was observed to be in the brain, which, where the animal was at rest, resembled a most brilliant amethyst about the size of a large pin's head, and from which, where it moved, darted flashes of a brilliant silvery light. Beroes, beautiful holothurians and various gelatinous animals were also taken up in great numbers. Indeed the Gulf of Guinea appears to be a most prolific region in these sort of animals ; and I have no doubt but the marine entomologist would here be able to add immensely to this branch of natural history. As it was found impossible to preserve the far greater number of these animals by reason of their delicate organization, the spirit of wine dissolving some, and extracting the colours of others, and as most of them require the aid of a microscope to describe them, a great portion of them were lost on us, from the want of a person either to describe or draw them from that instrument " (H b, 48-49, sans date).

May 16

" Thursday 16. This day immense flocks of birds of the Pelican & Gull species came within a short distance of us, many of the latter were floating on the surface of the sea, while others were darting on the flying fish that were abundant, none however came near enough to be shot, they were supposed to be the brown gull which is plentiful in the Canary Islands " [A, p. 13, cf. B, p. 6].

May 17

" Friday 17. Numbers of birds of the same species seen yesterday of birds were observed.—of Fish, Albigores, Bonitos & immense shoals of *E. volitans* & other small species, it was amusing to observe the activity exerted by the one species to escape from the predatory jaws of the other, we saw many of the Albigores & Bon. [itos] seize the flying fish when at some distance from the surface.—We took several *Crustacea* in the nett this morning.—One answers this description. Eyes on short but thick peduncles, their extremities fine blue. Antennae 4 very short, the largest not exceeding in length the peduncles of the eye & appearing to the naked eye like hairs but under the lens are found to consist of several small articulations terminating

in a fine point ; the inferior antennae are extremely minute & scarcely perceptible without the aid of a glass, on the upper part of the socket for the eyes on each side projects a single spine, which bends rather downwards at the point & scarcely reaches the extremity of the Eye, from the centre of the anterior part of the thorax extends a hollow & rather obtuse spine & reaches a trifle beyond the margin of the upper lip, the thorax appears nearly smooth but under the magnifying glass are discernable a number of very fine hairs ; abdomen very narrow consisting of 7 distinct joints, the caudal fin very narrow & divided into about 5 pellucid joints.—Legs ten, the anterior very short & small, chelate, wrist small, the finger & thumb smooth on the inner margin ; other Legs rather long & double at the points or nails & on the margin near the nails are several small spines ; colour of the Insect pale brown tinged with red, with numerous minute red spots on the legs. Length about $\frac{1}{4}$ Inch, breadth $\frac{1}{3}$ its length ; the annex'd is an outline [of] this species⁴⁸. [14] Crustacea.—2. Colour of the Eyes rich blue, peduncle very short, but the Eyes larger & prominent, from between the eyes projects forward a long spine or rostrum more than $\frac{1}{4}$ an inch in length & a similar spine projects from each side of the thorax, at the base of the former are 2 small spines near the eyes.—Legs 8, with 2 small appendages between the 3 & 4 pair which at first sight appear as the rudiments of another pair but which on close examination are perfect parts of the animal ; the legs are very small & can be almost concealed with the tail under the thoracic plates ; the spines which project from the sides appear on the under part to be nearly hollow, antennae slender not one half the length of the horn in front.—The side spines on the thorax bend rather downwards & forwards.—Abdomen narrow & consists of 7 segments, the caudal fin is very narrow & forked, on each side of the fork are a few long bristles.—A *Crustacea* somewhat similar was also taken but the spine on the back seems to be much bent & is not quite so long, perhaps a sexual distinction.—Length of the body $\frac{1}{4}$ Inch exclusive of the horn in front which makes the whole animal near $\frac{3}{4}$ Inch long " [A, p. 13-14 ; cf. B, p. 6].

May 18

" May 18. Fish—Body very compressed, rays of the dorsal fin short & this fin runs from over the eye the whole length of the back. Abdominal of Belly fins run near the whole length of the under side of the body. Tail short & small rather rounded & consists of several very fine rays. Rostrum rather projecting & appears as if truncated or cut of [*sic*] at the end, the under part of the mouth is rather shortest. Eyes small. Irides bright & silvery white. Length about one Inch, breadth nearly equal to its length. This fish is so remarkably thin & pellucid that the brain & all the intestines can be easily seen through, 6 red dotted lines run the whole length of sides.—3 of these fish are preserved " [A, p. 14 ; cf. B, p. 6].

May 19

May 20

" 20. Took a number of *Crustacea* in the [ou : tow ?] net " [A, p. 14].

⁴⁸ M^egalope, non reproduit.

May 21

"21. Fish. *Thoracici*. Length about 2 Inches, breadth $\frac{3}{4}$ Inch. Eyes black, Irides golden yellow. Upper part of the back & head olive green beautifully tinged with green gold & silvery shades, the belly & sides much lighter, the first dorsal fin is situate [sic] near $\frac{1}{4}$ Inch behind the head & consists [15] of 7 rays, the 3 from the anterior are longest, the last spine or ray very short & appears almost to connect it with the 2 dorsal fin ; this fin reaches quite to the tail & consists of near 30 rays, the first 10 longest ; the length of the longest ray on each of these fins is ab^t. $\frac{1}{8}$ of an inch, the pectoral fins are short & very slight & contain about 15 finely divided rays, the ventral fin has 2 short but very strong rays, which are connected at the base only by a membrane, the abdominal fins contain about 20 rays in each & reaches to the base of the caudal fin. The tail fin is moderately long & rather forked & contains upwards of 20 rays ; the lateral line is considerably bent or arch'd immediately behind the gill & then continues in a straight line to the extremity of the tail, about $\frac{3}{4}$ down the side of the fish this line becomes very strong and from it appear numerous radiations which are rather elevated on that part & slightly dentated ; the denticles fine & regularly set ; the fins in general are strongly tinged with orange."

"Fish. Teeth many, conical with a fine serrated margin. Irides nearly red. Pectoral fins small, ventral fins nearly black, 4 long spines round the head ; dorsal fins : the first small & short the second reaches near $\frac{2}{3}$ the length of the body, abdominal fin almost like a very thin membrane, tail white & a little rounded. Length $\frac{1}{2}$ Inch [au crayon : Bot[le] 17]."

"Fish. Body rather long & compressed a little. Head small. Irides silvery white. Body paleish white. Dorsal fin runs nearly the length of the body. Abdominal fin from the tail to the stomach, the intestines of which are quite visible through the body ; the pectoral fins are rather long, the tips of which are red.—Ventral fins small, caudal fin rather forked, with a brown bar across at the base ; length $1\frac{1}{2}$ Inch, breadth ab^t. $\frac{1}{4}$ of Inch. [Bot. 17]."

"This day vast numbers of those Pelagic fish Albicore & Bonitos & innumerable *Exocetii*, the flight of this fish as far as I have hitherto observed consists of one leap & the vibration of the wings if any is certainly very limited, some of them flew at least 200 yards & on the first exertion were more than 20 feet above the surface of the sea ; in general they raise against the wind—We saw at least 2 species [of] Gulls and other sea birds, apparently *pelicanii* were very plentiful" [A, p. 14-15 ; cf. B, p. 7].

May 22

"May 22. Fish.⁴⁹ Pectoral fins small & like a very thin membrane, consisting of 18 rays.—Irides silvery, ventral fins more forward, consisting of very fine long black rays, when closed appeared as one ray, body compressed & in shape not very unlike 2 triangles united, the first abdominal fin consist of about 6 rays, the anterior of which extend to near 2 [16] inches in length & terminates in a thread like appendage ; behind this is a fin of 12 rays extremely thin & delicate, on the middle of the back a kind of hump from whence projects a fin of 6 Rays, the 2 middle ones extending similar to the first abdominal fin below ; the tail is moderately long but the

⁴⁹ "Fish of the Genus *Zeus* . . ." [B, p. 7].

caudal fin is slender, the second dorsal fin extends from the base of the first to the base of the tail & has at least 15 fine rays ; the long appendages from the back & belly of this fish make it a curious subject ; the sides & belly were silvery white. Head & back blueish tinged, with silvery scales ; the mouth appears to be destitute of teeth. Length of the body full one inch, breadth nearly the same, length of the dorsal & abdominal rays including the 2 appendages full 2 Inches each ; these long rays were blueish.

Took also a few *Aphrodita* from a piece of wood. " [A, p. 15-16].

May 23

" 23. Fish⁵⁰. *Thoracica*. Head with the upper part covered with numerous irregular ridges that give it a very rough appearance, from the back part project 2 large white spines which are serrated on the inner edge. Irides silvery ; from the covering of the gills project 2 spines which are also serrated, these are full 1/4 Inch long ; the pectoral fins are remarkably small, dorsal fins are fine & situate or rather commence just behind the point of the spine on the back of the head, abdominal fins come about half way forward the body from the tail ; tail of moderate length & rather truncate at the end.—Vent fins extremely small.—Length 1/2 Inch. "

" Fish. *Diodon*. Length about 1 Inch, colour on the back olive yellow, on the Belly white. Irides yellow with 4 or 5 black spots on each. Tail rounded with 6 treble rays, abdominal fin 15 rays, the first 6 with double lines on each, this fin is situated close to the tail. Dorsal fin of 12 rays, with 2 lines on each, the gills are far behind the head & are very small at the openings ; all the fins are nearly white with very minute lines. The whole fish is irregularly spotted with black, the base of many of the spines yellow [17], the mouth oval, the lips large & transparent & horny, within the mouth in the palate are 4 transverse ridges which serve as denticles. "

" 2 Albicore taken this morning, weight 84 & 85 lb^s. Length 4 f. 6 l., 4 f. 10 l. ; these large ones had short white streaks on the sides & so powerful were they that 2 heavy men were lifted with ease by the strength of their tails—Fish was this day & sev^l. preceding was very plentiful around us & numbers of Albicore & Bonitos taken " [A, p. 16-17 ; cf. B, p. 7].

May 24

" 24. Fish very plentiful as Albicore, *Exocetii*, &c " [A, p. 17].

" 24. A few *Crustacea* taken, also a White Shark " [B, p. 7]⁵¹

May 25

May 26

" 26. *Crustacea*. Eyes on large & moderately long peduncles, the tips of a rich green colour, antennae about twice the length of the eyes & consists of 5 joints from

⁵⁰ " *Cottus* " [B. p. 7, avec la date du " 22 "].

⁵¹ Cette indication se rapporte sans doute, en réalité, au 20.

the shorter of which proceed 3 bristles on the inner side. Abdomen of 7 smooth joints, the last of which or caudal fin has a small notch in the middle & three spines on each side, those at the posterior angles twice as long as the others & each joint has 4 (?) fin appendages, of an oval form. Thorax ridged, the sides towards the under part very much bent inward, a long spine projects in the centre of the front & on each side of the posterior angles a very small spine on each side the long one in front (?) & 4 other spines round the margin of the thorax & a very small one that rises from the ridge of the back—Fore legs of 3 joints, the third flat & oval & from the edge of which some very small hairs are discernable by the aid of a lens & at the base of which is a small appenda [ge] of 4 or 5 joints. Legs at least 10, the second pair very long, having long & simple nails, other legs very small & short. The mouth is placed just between the eyes & is apparently a small round projecting point. Length seldom above 1/2 Inch, breadth 1/4, pres^d. in Bottle 3662."

"A shark taken this morning."

"Animal of shells pres^d. No. 7. Two membranes from it similar to wings which it moves with great quickness, the centre of these purple.—Dr Smith has drawn a good figure of it" [A, p. 17].

May 27

"The sea is here uncommonly abundant in fish. The whole surface is often put in motion by the flying-fishes, when chased by others. Their number is immense. Shoals of them constantly surrounded the vessel, and at night they give out a white light, resembling that of the moon, when reflected by the sea. It was also chiefly at night that we were enabled to catch, with the net, the greatest number of mollusca and crustacea. Many different substances contribute to make the surface of the sea light. Some parts of the bodies of most of the crustacea have certain glittering points, and two or three species of crabs were perceived to give out the most brilliant light. The points, which are to be seen on the mollusca are larger, but less bright. But that luminous [p. 259] appearance which diffuses itself over the whole surface of the sea, arises from a dissolved slimy matter, which spreads its light like that proceeding from phosphorus. The most minute glittering particles, when highly magnified, had the appearance of small and solid spherical bodies" (H c, p. 258-259, sans date, mais après le 26 mai).

May 28

"I am often up at night fishing for marine animals, of some of which I make sketches" (H c, p. 259).

"May 28 : We saw for the first time this day one of these floating islands, often mentioned, and which probably come out of one of the rivers of Africa. The Captain permitted us to put out a boat, in order to examine it. It was about 120 feet in length, and consisted of reeds, resembling the *Donax*, and a species of *Agrostis* ? among which were still growing some branches of *Justicia* ; and in the midst of these were seen a number of animals (*Sepiæ*) ?" (H c, p. 259).

May 29

May 30

"30. We took several Crustacea and on board the Congo was taken a specimen of *Argonauta Hiants* having its animal inhabitant" [A, p. 17 ; cf. B, p. 7].

May 31

Légende d'un dessin de Siphonophore : "May 31. This animal has frequently been taken by us from May 30 to June 5, but seldom perfect, in fact the long appendage [?] the head is but little more than ova attached to a long thread like [?] which severs from the head on the slightest touch, the string is of a beautiful orange & black colour & is sometimes a yard in length. The head & stomach of the animal are pellucid but very beautifully punctured all over. A, the head mag^d., b the whole an. [imal], & c the mouth ; parts of this are luminous" [C, p. 40].

June 1

"June 1. *Crustacea*. Body nearly oval with 4 long smooth sharp spines, one projecting in front, one on each side & one near the centre of the back, this inclines a trifle forward ; these spines were tip'd with red. Eyes blue, at the base of the head is red, the abdomen is extremely narrow & roundish consisting of 7 joints, the last joint a tail [18] forked & tip[pe]d with red. Legs remarkably small, pres^d. Bottle 821. Length 1/4 Inch."

"*Crustacea*. Thorax on the upper side oval, the sides bend in much & conceal the legs, from the front projects forward a single spine very slender full 1/2 an inch in length, this is alternately banded with blue & brown, from the posterior part of the thorax 2 appendages full one eighth of an inch in length, these through the lens appear articulated having 4 or 5 joints in each, the abdomen is very small & nearly concealed within the bent sides of the thorax, it consists of 7 joints, the last is nearly 1/3 its length & is of an obtuse triangular form with 14 or 15 long bristles on its margin. Eyes blue pedunculate, but the peduncle very short. Fore legs or claws chelate. Antennae 4, short spines at their base, small legs 10. Length of the body 1/8 Inch including front spine near 1/2 Inch—Bottle 821.⁵²"

"Sev¹. *Beroe* pres^d. in Bottle 962, the bag or covering is of a long oval finely reticulated with purple veins, some of them were full 7 inches in length."

"Bottle 635. 35. *Lepas* shell of 5 unequal valves nearly transparent, the back plate large, round the margin of the valves a purplish tinge, shells slightly striated, tentacles 24, these are rather long & of a rich purple colour, the peduncle scarcely retractile & nearly pellucid—Length of the largest 1 Inch long, 1/2 Inch broad, Sev¹. are pres^d. from floating wood &c."

"June 1. Fish *Thoracici*. 4 Rays in the branchia. Body very compressed about 1 Inch in length & nearly the same in width, pectoral fin of 10 rays apparently unconnected, head sloping above the mouth, under lip projects beyond the upper part, before the dorsal fin are 4 small spinous hooks. Dorsal fin consists of 7 ciliae or hairs, ventral fins small, immediately behind which is a notch in the body from thence to the tail the anal fin consists of about 12 rays, unconnected & 3 anterior

⁵² Zoé de Porcellanidé, cf. p. 56.

spines—Tail slightly forked & has about 30 rays, the upper part of the back are bluish, the sides & belly silvery—Irides bright yellow ” [A, p. 17-18 ; cf. B, p. 7].

June 2

June 3

“ June 3. A few *Medusae* of very large size were taken. Several small land insects, as *Ichneumon* & one or 2 *Lepidoptera* ” [A, p. 18]

“ 3. Several *Mollusca*, a few *Lepas* & 2 or three small fish taken [B, p. 7].

“ The albicores which had accompanied us in vast shoals to the edge of soundings, and were taken in such numbers, that besides being consumed fresh to satiety, the crews of both vessels pickled and salted several barrels, now entirely disappeared, and with them the sea birds ; the white colour of the water changed to the oceanic blue before we struck soundings, the marine animals much decreased, and the sea lost a great portion of its luminosity ” (H b, p. 52, pas de date ; probablement début juin, après l'approche de la côte).

“ The dredge was put over board, and brought up two or three species of echini, some small cancri, bits of coral, &c. While in soundings no fish were seen, nor any birds except an occasional solitary tropic bird or pair of boobies ” (H b, p. 53, pas de date ; évidemment : début juin).

June 4

“ 4. A few *Medusae*. ”

“ *Crustacea*. Antennae about the length of the body, very slender. Eyes extremely large & on short peduncles, rostrum short extending very little beyond the eyes having 8 sharp spines on the upper & 6 on the lower side. Thorax finely punctured with 5 spines on it, one at each angle near the eye, one on each side & one immediately at the base of the rostrum ; the abdomen consists of 7 smooth joints the first 4 of which are carinated, the first from the tail terminates in a sharp spine ; on each joint are two swimmers on each side, these are rounded. Legs 12, the foremost chelate & small, the others very long, nails simple—The first 5 segments of the abdomen have hooked appendages which are long & pointed. Length 1 1/2 Inch, breadth 1/4 Inch ; palpi large plates covering the sides of the mouth, broad & [19] thin. Colour when alive red, the whole body red & punctured, pres^d. Bottle 2075 ” [A, p. 18-19].

C'est du 4 juin qu'est datée, également, une page (de 48 lignes) entièrement écrite en sténographie (à l'exception du mot “ catastrophes ”). Malgré l'aimable intervention de Mr F. Higenbottom (Royal Museum and Public Library, Canterbury) il n'a pas été possible d'identifier le système employé ; c'est d'autant plus regrettable que si Cranch a éprouvé le besoin de soustraire à la curiosité de lecteurs éventuels cet assez long texte, c'est qu'il avait quelque chose de sérieux à tenir secret.

June 5

“ Thursday 5. Took 2 Paper *Nautili* or rather *Argonauta*, the species *hians*, one of these certainly had very recently had its animal inhabitant, a thin membrane of

which completely cov^d. the aperture. Sev^l. small Crustacea taken " [A, p. 19 ; cf. B, p. 7].

June 6

" Friday 6. A few *Mollusca*—A species of swallow came along side, it appeared to me [?] the House Martin (*Hir. [undo]* —) if not the same, it was shot at but unfortunately missed " [A, p. 19].

June 7

" Saturday 7. Took a fish, order *Apodea*. Certainly closely allied if not the same genus as Montagu's *Zyphoteca*⁵³ (Wer. Mem.). Length 18 Inches, breadth near the gills 1 1/2 Inch. Body compressed and carinated on both sides. Dorsal fin commencing near the back of the head & continuing to within 1/2 Inch of the tail, it contains about 110 rays connected by a very thin membrane, the rays are nearly equidistant & of equal length, not exceeding 1/3 of an inch. Head lengthend, the upper part between the eyes projecting into a sharp ridge. Jaws long & prominent, the under one extends beyond the upper, teeth placed in a single row round the edges of each lip, about 30 in the under & 26 in the upper, 6 of them at the extreme point three times as long & large as any of the others, the other teeth, 2 only excepted, are nearly of equal size ; these 2 are placed at the point of the under jaw, tongue small & much shorter than the mouth of a dark colour & perfectly smooth. Eyes very large & prominent. Irides silvery. Length of the head 3 1/2 Inches—Branchiostegous rays 4, toothed on the inner margin—Pectoral fins of 12 rays, the last 4 from the sides considerably largest ; about half way down the belly is the vent which is very small & nearly behind which is a simple scale about 4 inches from the tail. The anal fin commences about 3 1/2 inches from the tail & contains about 40 equal rays, the connecting membrane extremely thin so that the slightest touch divides them, about 1/4 of an inch from the caudal fin the body becomes nearly round ; the tail fin is small but much forked & has about 33 rays, the body runs nearly equal in size at least 7/8 of its length & then gradually decreases to within about 1/2 Inch from the tail were [*sic*] it becomes suddenly very small in this part & rounded.—The Body is covered with very minute silvery scales which gives [*sic*] the fish a rich polished appearance but these scales so easily separate that it is impossible to fully preserve their beauty long out of the water or even after the fish has been dead a short time—The fins are white, at the base of the Dorsal is a darkish shade running the whole length of the back, the upper part of the head is also darkish—Every other part of the fish appears like the highest polished silver & in a recent state is a most beautiful object "⁵⁴ [A, p. 19 ; cf. B, p. 7].

[20] " June 7. In the after part of this day we saw two very large Grampusses

⁵³ Le document B (p. 7) donne *Ziphotheca* ; or Montagu (Mem. Wern. Nat. Hist. Soc., I, 1808-10 [1811], p. 81 avait écrit *Ziphotheca* et c'est Swainson qui en 1839 (Nat. Hist. Fishes, . . . II, p. 239) a corrigé en *Zyphotheca*. Jordan écrit *Zyphotheca* (Gen. Fishes, II, p. 200), *Zyphotheca* (Class. Fish. p. 180) et attribue même un *Xiphotheca* à Montagu (*eod. loco*)—appelé " Montague " dans le Gen. Fishes, II, p. 200—et (I, p. 84) un *Xiphotheca* ; de plus, le même genre *Ziphotheca* est placé dans 2 familles différentes, étant tenu pour synonyme tantôt de *Lepidopus* (Gen. Fishes, I, p. 84), tantôt de *Gempylus* (II, p. 200) : le *Ziphotheca* de Montagu est synonyme de *Lepidopus*.

⁵⁴ Paraît pouvoir être le *Lepidopus caudatus*.

at a few hund^d. yards distant, they remained under water not above 5 or 6 minutes at a time" [A, p. 20].

June 8

June 9

June 10

" Tuesday 10. Took 2 singular fish. Length of the largest about 2 inches, at first sight they appeared as animals allied to *Laplisia* [sic, = *Aplysia*] but the last specimen being perfect proves they are a species of cartilaginous fish. The order is doubtful, much more the genera they ought to be placed in. The first answers this description—Body of a long oval, moderately thick & rather tapering towards the tail, head blunt, skin of the body smooth. Eyes small & situate [sic] near the middle of the upper jaw. Irides silvery or rather gilt, mouth nearly orbicular, but the under jaw rather projects a little forward, both jaws are armed with numerous fine teeth set in at least double rows, the teeth are very small & sharp, tongue rather large, immediately on the head in a line from the centre of the upper jaw are two fleshy prominences which bear some resemblance to horns & are about $\frac{1}{8}$ of an inch in length, there are hollows on the back part forming a kind of small sack which the fish can depress or erect at will. No apparent gills or openings for breathing but just behind the head are 2 very thin membranes—above these are 2 pectoral members about $\frac{1}{2}$ an inch in length which protrude from the side about $\frac{1}{2}$ an inch in length, these spread upwards in a fanlike form, the extreme membrane of which is moveable in 2 or 3 directions, these fins move alternately in assisting the progressive motion of the fish, immediately behind these & protruding from the belly is a small fork-like shallow [?] body which is divided about $\frac{1}{2}$ its length into 2 fins that spread out from the sides & consists of several rays the points of which are not connected by any membrane, the Dorsal fin commences a trifle behind the back of the head & continues within $\frac{1}{8}$ of an Inch of the tail, the first anterior 4 rays are longer than the 9 succeeding ones & behind which the posterior ones are the longest rays in the fin, anal fin situate [sic] near the tail and consists of about 7 stiff rays—tail considerably rounded, of 7 double rays—the colour of the fish dusky with a number of small irregular brown or purplish spots & varying in the specimens procured which are 3 in number & preserved in Bottle 774. "

[plusieurs dessins au crayon]

" perhaps allied to the gen. *Lophius* —a small aperture near the base of pectoral membranes" [cf. B, p. 7, mais au 9 juin]

[21] "*Balistes*. Length rather more than 2 Inches, colour dark brown with a few small light spots on the back & sides, belly lighter, mouth very small. Irides yellow, the spine on the back has a triple row of small spines on it, those on the front sides are longest, this spine is about $\frac{1}{10}$ [?] of an Inch in length, the Dorsal fin commences more than $\frac{1}{2}$ way down the back & contains 28 rays, the tail is of moderate length & rounded & has about 12 rays, the anal fin commences nearly opposite the dorsal & reaches to within $\frac{1}{4}$ of an Inch of the caudal fin ; at the bottom [?] of the belly, near its centre is a short protuberance covered with small spines & near which the vent

is situate [*sic*], the pectoral fins are very small—June 13⁵⁵, pres^d. in Bottle 39” [A, p. 20–21 et un dessin au crayon].

June 11

June 12

June 13

“ 13. This evening took 2 of *Argon*. [*auta*] *Hians* with their animal inhabitants, these very much resemble *Sepia octopodia*, having 8 short & rather broad tentacula from which proceed numerous papillae, colour in general similar to that animal.—On these 2 animals being placed in a cup of sea water, they easily protruded themselves from their shells & swam at the surface or any intermediate depth, having all the actions & manners of the common cuttle. These animals by means of the papillae on the tentacles has [*sic*] the power of firmly adhering to any substance it comes in contact with & at times they fastened to the bottom & sides of the glass vessel they were in as firmly as many of the *Patellae* do to rocks &, the shell in that case serving them as a complete testaceous covering, in this position the shell may be easily drawn [?] from the animal as the attachment is very slight if it has any membrane whatever.—It is certainly capable of withdrawing itself wholly within its shell, much more so than some of the *Helices*, *H. Janthina* as an example. It ejects water to considerable distance from a small syphon or tube & also that dark inky matter so commonly emitted by the cuttle ; that this animal can wholly leave its shell there can be no doubt, for although one of the specimens we took withdrew within it & remained some considerable time & was placed in spirit of wine in that position, yet the other specimen by a considerable effort came quite out & left the shell not leaving the slightest membrane attached to the shell, the water was frequently changed to see if it had the inclination again to return into it but nothing of that sort that we could observe was [?] although it was lively for some hours.—Another we afterwards took the day following appeared to leave a very slight membrane when it quitted the shell.—On board the Congo M. Hawkey took several, the animal inhabitants were all similar, one of which he sent us & it is pres^d. with the others in Bottle [—] as well as I recollect the fig. in Wood’s Zoography of this animal is quite correct ” [A, p. 21 ; cf. B, p. 7].

“ . . . many of the paper nautilus (*Argonauta sulcata*), with the living animals, which, in contradiction to the opinion of the French naturalists, proved to be perfect *Octopi** ”.

* L’animal qui forme cette coquille ne peut être un poulpe La Marc, Animaux sans Vertèbres, p. 99 (H b, p. 55, sans date précise).

June 14

“ A dead albatros (a bird rarely to be met [p. 261] with so far to the north,) was fished up ” (H b, p. 260–261).⁵⁶

⁵⁵ D’après B, p. 7 et la figure le petit *Balistes* serait bien du 10 et non du 13 juin.

⁵⁶ Il y a certainement une erreur de date, la rencontre du cadavre d’Albatros paraissant avoir eu lieu le 18 juin.

June 15

" 15. Took a fish pres^d. in Bottle [—] I cannot refer it to any known genera " [A, p. 21 ; cf. B, p. 7].

June 16

" 16. A small specimen of the same fish we took yesterday " [B, p. 7].

June 17

" 17. Another specimen of the fish taken 15., of smaller size " [A, p. 21].⁵⁷

June 18

" Tuesday 18. The sea was extremely luminous this night with a small species of *Crustacea* a few of which are pres^d. & Dr Smith made a drawing from them " [A, p. 21 ; cf. B, p. 7].

[Wednesday 19]⁵⁸

" An Albatross picked up along side the vessel but quite in a putrid state, most likely washed from more southern latitudes by the current, we also saw a few of the common Tropic bird & 3 or 4 *Pro. Pelagica* " [A, p. 21 ; cf. B, p. 8].

" The same day a whale (apparently a species of *Physeter*, having large humps behind the back fin), struck our rudder with his tail in rising, and one of these fish rose directly under the Congo ; and according to the expression of those on board her, lifted her almost out of the water. These animals indeed were now extremely numerous " (H b, p. 55).

June 19**June 20**

" On the 20th, a whale was swimming close to the vessel " (H c, p. 261).

June 21

[22] " Friday 21. A whale of about 20 feet long came very near us. This & the 2 preceeding nights the sea has been extremely luminous arising principally from myriads of *Crustacea* which rise on its surface at night. On lifting up the anchor a few fragments of shells were drawn up from the bottom, one is certainly the *V. cincta* of Pultney so common on British shores, another specimen very resembles the young of *Buc. [cinum] reticulatum* of Montagu &, allowing a slight variation from climate, is beyond doubt that shell . . . A few stormy Petrels were the only birds we saw this day " [A, p. 22 ; cf. B, p. 8].

June 22

⁵⁷ C'est évidemment la même phrase que celle de B, p. 7 pour le 16 juin : lequel des deux documents se trompe, A en donnant 17 pour 16 ou B avec 16 pour 17 ?

⁵⁸ Le document B (p. 8) donne 18 juin ; et Tuckey note (H b, p. 55) : " The day we made the land a dead albatross (*Diomedea exulans*) was picked up floating in a putrid state, which seems to show that these birds wander farther towards the equator than is generally supposed " ; comme la terre a été reconnue le 18, la date " Wednesday 19 " est sans doute erronée.

June 23

" Sunday 23. Several fishes were this morning taken belonging to the genus *Sparus*. The largest I have yet seen answers this description. Mouth with a single row of teeth, close set, 4 in each jaw, at the anterior part considerably largest & these are of a canine form. Branch [iostegous] memb[rane] of 5 rays. Dorsal fin contains about 12 rays, commences about one inch behind the opercle of the gills and continues to within 2 inches of the tail fin, it has 23 rays⁵⁹, the 2 first very short, the next 4 longer than any of the others, from thence the rays gradually decrease towards the tail but I find the length of rays varies in dif[ferent] species & I find in a small specimen that 2 first in the Dorsal fin are quite equal to the 4 following, the pectoral fin is [?] and has 14 rays, ventral fin with 6 short stiff rays & this fin is nearly white—Anal fin of 14 rays, the first short, the following ones longer, then decrease toward the tail. Irides golden colour, the tail fin consists of about 20 closely connected rays & is forked ; the body is covered with silvery distinct scales. Colour on the back red, belly & sides rather lighter, anal fin tinged with bluish, Dorsal and tail same colour as the back, considerably darkest at the base & sides of the rays ; length 16 inches, breadth about 8. In the young of this species about 8 Inches in length the canine teeth of this species are scarcely visible ; many of these were taken by the hook, perhaps a common ground fish on this part of the coast. On this day we drew up with the anchor a few fragments of shells of which one is similar to *Tel. [lina] crassa* var. of Mont.[agu] ; in the afternoon [a] large specimen of the fish above noticed weighing 15 pounds was taken, this appeared to have a large bump just behind the head but evidently the same fish in a more adult state—One next day, 18 pounds, length 2 feet " [A, p. 22 ; cf. B, p. 8].

" Whales (probably *Physeter* . . .) are seen daily swimming near the vessel. We catch every day a number of *Sparus* resembling *Pagrus*. Its flesh, though dry, has a very good taste " (H c, p. 262).

" . . . took a good number of fish of the *Sparus* genus, named by the seamen sea-bream, and light-horsemen, the latter, from a reddish protuberance on the back of the head (fancifully thought to resemble a helmet) ; they were taken with the hook close to the ground, and baited with fresh pork or their own livers ; the largest weighed 18 lbs., and though rather dry and insipid, were infinitely preferable to the albicore and bonito with which we had been surfeited in the Gulf of Guinea " (H b, p. 57).

June 24

" Monday 24. Two whales seen in the after part of the day—A small species of *Certhia* perched on the yard of our vessel, several Petrels, *P. pelagaci* were within a short distance of us " [A, p. 24 ; cf. B, p. 8].

" Sea birds had also entirely dissappeared, with the exception of an occasional tropic bird, and a few of Mother Carey's chickens (Storm petrel) ". [H b, p. 57, date non précisée).

June 25

" Tuesday 25. Took a few *Tipula* as they floated by on the surface of the water

⁵⁹ Il s'agit évidemment de la deuxième partie de la dorsale.

these insects were in great abundance & many of them living, took also a specimen of *Phal.[aena]*—. Two whales were seen " [A, p. 22 ; cf. B, p. 8].

June 26

" Wednesday 26. Many large shoals of small fish were near us on the surface—Some few Petrels, *P. pel. [agica]*—In the morning several spots in the sea appeared of a blood red colour, on examining some of the water it proved to be occasioned by a species of *infusoria* " [A, p. 22 ; cf. B, p. 8].

" *Salpa*. Very common on the surface by day or night. The eye looks like a globule of silver when 2 or 3 dozen are sometimes seen together, looking by their eyes like a string of beads [in] the water, the other parts of the animal pure white, but so soft as not to be kept [?], it appears to possess but very little locomotive power " [C, p. 40].

June 27

" Thursday 27. As we lay at anchor 3 fish of the Genus *Diodon* were taken with the hook. Largest length about 10 Inches, width about 3. Irides brown. Dorsal fin small situate [*sic*] within 2 Inches of the tail & consists of 12 rays. Lateral line very curved. Tail forked with 12 double rays. Anal fin made of 12 [23] rays. Pectoral fin truncate of 22 rays, back dark, the colour tinged with black sides of the head olive green, the inflated part of the body of a pure white, belly d^o. & silvery, base of the pectoral fin quite black, a semi-circular white mark next it & beyond which the fin is of an olive green—Took also a specimen of *Ichneumon* length ab^t. 1 Inch, banded & spotted with yellow—Sea at night very luminous " [A, p. 22-23 ; cf. B, p. 8].

June 28

June 29

" Saturday 29. Two large whales & a thresher seen in combat at a short distance from the vessel. These animals row with prodigious fury[?] one against the other " [A, p. 23 ; cf. B, p. 8].

" Dorothy, June 29, 1816

Sir,

The duties of the situation I have the honour to hold in this expedition demand I should embrace any opportunity that presents itself to communicate such observations as have occur^d. & at the same time to transmit a specimen of each subject of Natural History I have pres^d. during this voyage. I have therefore accordant to those parts of my Instructions selected such as are needful & transmit with them a copy of my Journal to this day. I have endeavoured as far as circumstances would permit to keep an individual or more of every species taken & trust it will appear by the condition of the specimens sent that nothing has been omitted on my part to endeavour to preserve them as perfect as possible. Many of the *Mollusca* tho [*sic*] extremely interesting when alive could not be preserved but my friend and companion Dr Smith has very kindly taken some correct drawings of the most remarkable

& which will hereafter answer every purpose to identify those species in future. I have endeavoured as far as my abilities will admit to retain in description some of those characters which are perishable in spirit &c. The dates also & peculiar circumstances under which some of these animals were taken are noticed. This may hereafter tend to assist in ascertaining the Geography of a few but in my opinion it would require many voyages to ascertain with a degree of certainty the places & under what circumstances in general many species of animals appear. The slight knowledge I have of General Zoology will I hope plead sufficient excuse for my not entering so minutely into description as I should otherwise do if I were well acquainted with the subject myself. I flatter myself however the species now sent will hereafter meet that attention which perhaps their peculiarities [*sic*] may deserve.

I remain your obedient servant

John Cranch " [B, p. 1]

" Some days ago the sea had a colour as of blood. Some of us supposed it to be owing to the whales, which at this time approach the coasts in order to bring forth their [p. 264] young. It is however, a phenomenon which is generally known, has often been described, and is owing to myriads of infused animalcules. I examined some of them taken in this blood-coloured water : when highly magnified, they do not appear larger than the head of a small pin. They were at first in a rapid motion, which however soon ceased, and at the same instant the whole animal separated into a number of small spherical particles. The sea has again assumed a reddish appearance ; but this is probably owing to mud, that has been dissolved " (H c, p. 263-264, probablement 29 juin).

June 30

" Sunday 30. A few shoals of small fish seen, in the after part of the day several Tropic birds " [A, p. 23 ; cf. B, p. 8].

July 1

" Monday 1. A species of Dove was seen flying towards shore " [A, p. 23 ; cf. B, p. 8].

July 2

" Tuesday 2. A few crustaceans were taken this day in the dredge and preserved in bottles also a few valves of the hollow ridged cockle and 4 specimens of *Mytilus* " [A, p. 23 ; cf. B, p. 8].

July 3

" Wednesday 3. A few Tropic birds seen & a specimen of *Phal. [aena] Bombyx Major* taken on board, a large *Papilio* & a *Sphinx* were also seen but could not be taken " [A, p. 23 ; cf. B, p. 9].

" With the drag we have fished up several kinds of shells and crustacea. An uncommonly large cel of a very good taste was caught on board the Congo " (H c, p. 271 : la capture de l'Apode est sans doute celle du 6 juin).

July 4**July 5**

"Friday 5. A species of *Anas* flew over the vessel" [A, p. 23].

En sondant "nothing was taken up but branches of an *Antipathes*" (H c, p. 271).

July 6

"Saturday 6. An Eel sent from the Congo. Length upwards of 3 feet, circumference at the largest part 10 Inches. Body very compressed near the tail, upper part of the nostrils very conspicuous & open & placed about 1 1/2 Inch from the mouth. Irides very silvery. Branchiostegous rays 4, smooth on the inner margin. Jaws armed with very strong teeth, in the upper the outer row for 3/4 the length of the mouth very much the largest & within which are many irregular denticulations very thinly set, at the extremity of this jaw are 2 very long canine teeth & immediately behind this are several small irregular teeth, from the roof of the anterior part of the mouth rises a single row of ten teeth that are canine in form, the first from the front smallest, the under jaw has several rows of teeth, the first or marginal are small, the second considerably largest [*sic*], it has also several canine teeth in front that are larger than any of the others—the dorsal fin commences about 2 inches behind the head & continues to the tail, it is [?] about 1/2 an inch in breadth at the widest part. The lateral line is nearly straight but [?] broad & large & appears to consist of transverse or oblique short rays that nearly connect with each other—Pectoral fins small but acuminate—anal fin begins about 2/3 down the body & is not wider than the dorsal—Colour [3 mots ill.] on the back brownish, sides and belly silvery white & the pectoral fin bluish—At dusk when we anchored 2 or 3 Parrots flew [?] us." [A. p. 23 ; cf. B, p. 9].

July 7

"Mr Cranch shot some birds, amongst which were an eagle, an anhinga, several varieties of the king fisher, a toukan, and many small birds" (H b, p. 82).

July 11

" . . . in one haul [of the seine] thirty large fishes were taken, some weighing 60 lbs ; there were all of one kind, of the *Sparus* genus, and named *Vela* by the natives. They were found to be excellent in taste and firmness, much resembling the cod. The only other species taken were a large catfish (*Lophius*) and a few small mullets" (H b, p. 83).

" . . . a pool of water like a fishing-pond, where Cranch had just shot an *Anhinga*. We went down to the river side, and to our great joy found here the whole company, who had just had an immense draught of large fishes of a species of *Sparus* . . . Cranch had not been very fortunate. We observed but few insects, and the birds were very shy. I saw a number of parrots, small parroquets, a black-bird on the wing, and two small *Motacillae* [*sic*], but did not fire a single shot". (H c, p. 283).

July 15

"The collection of birds and insects is small" (H c, p. 286).

July 16

"We saw traces of buffaloes on the sand of the shore. Of birds, we saw two species of the eagle, an *Ardea alba*, and *Platus* [sic] *anhinga*, three *Certhiac*, two *Alcedines*, two *Fringillae*, a large grey parrot and a parroquet". (H c, p. 287).

July 20

July 20. *Scarus*. Dorsal fin commences about 2 Inches behind the pectoral & contains 40 rays, the first very short, the succeeding nearly uniform & the whole rather spinous. Pectoral fin rather slender, 15 rays; abdominal f. very short with 6 strong rays; anal f. d^o, 8 stiff rays. Body & head cov^d. with very strong scales richly [?] & with num. strong purple rays running transversely across the back. Teeth uniform conic in a simple row except at the ant. part of the jaw were [sic] 2 long project far beyond the others. Palate smooth. Branchiostegous [?] 4—Length 3 feet, common at Sharks Point and near Sherwoods Creek—Used as food but not of any fine flavour—Native name Lovi."

"*Scarus*. Body compressed. Jaws smooth much retractile. Dorsal fin commencing rather behind the center of the back & consists of 21 not well defined rays. The first 6 considerably longest; this fin extends to within 1 Inch of the tail & from thence to (?) the tail fin the body is rather rounded. Tail much forked. Anal fin nearly opposite the dorsal & about the seam length. Abdominal fin near the center of the belly [2 mots ill.], between this & the anal f. are 2 short stiff spines. Length from 8 to 12 Inches. Native name Covee. At Sharks point, Sherwoods Creek, &c."

"*Scarus*. Length near 2 feet. Body thick. Dorsal fin begins just behind the gills & consists of 22 rays, the first 10 much the longest, the points quite spinous. Tail rather truncate, the Rays wide but not well defined—Pectoral fin of 12 R. [ays], the first 5 nearer the base considerably longest. Abd. fin of 6 strong rays. Anal opening about 2 Inches behind, large & very conspicuous, beyond (?) this at the beginning of the Anal fin are 3 very strong spines, the middle one extremely large; the Anal fin has a rounded form & consists of 10 small rays. Branch [iostegous] [?] 4. Mouth beset with a single row of teeth very distant from each other, 7 in the front of the jaws longer (?) than the others. July 20—plentiful at Sherwoods creek. Native name Comba" [C, p. 17-18].

July 21

"This morning we sent a party to haul the seine on one of the banks which lie close to Knox's island, and took great abundance of fish of four species, one being a *Sparus* of a large size, a mullett (*Surmuletus*), and an old wife (*Ballistes*)". (H b, p. 90).

July 22

"A large monkey was seen on the shore from the Congo. The *Simio* [sic] *cephus* was frequently brought to us by the inhabitants" (H c, p. 289).

July 23

"Tudor chased several water-fowl, but with little success. Traces of *Hippopotami*

were seen every where in the sand. A singular species of *Sterna* and an *Alcedo* were shot " (H c, p. 290).

July 24

(Monkey's Island)

" The fishing for oysters seem to be the main object of the negroes who live here. Large heaps of the shells of a *Mya* lay spread all over the shore, and a great quantity of dried and half-roasted oysters were hanging under the straw huts " (H c, p. 291).

August 3

" The wild animals of whose existence we have any certainty, are elephants in small numbers, this hilly country being unfavourable to them. Buffaloes, which are said to be abundant. Antelopes, of which a few have been seen ; wild hogs, the skeleton of the head of one being found. Tiger and tiger cats, the skins being seen with the natives. Monkeys in abundance (*Simia cephus*). The hippopotamus and alligator appear to be numerous. The only species of fish we have seen to be peculiar to the river is a kind of cat-fish, and some small ones resembling the bleak.

Among the birds are the grey and other parrots, the toucans, the common royston crow, a great variety of king- [p. 122] fishers, and many of the falcon tribe. A species of water-hen is also very numerous " (H b, p. 121-122).

August 4

" We found several curious insects . . . We saw monkeys running to and fro on the branches of the trees (*Simia cephus*), and several birds, among which was a spotted *Alcedo* " (H c, p. 308).

August 6

[B, p. 9-11]

" Boma Aug^t. 6, 1816

Congo River

It might be reasonably expected from the reports which were currant [*sic*] before we left England relative to the natural production of this River that the collector would here find a golden harvest in every branch of Zoology ; from the short experience I however now had up to this part of the River we are now ascended, I can declare excepting Birds (& those not numerous in point of species) all other classes of animals are extremely scanty & not easily obtained. Of Fish I have noticed about 4 or 5 species, 2 of which are pres^d. & sent, both of which I am inclined to think are well known. Reptiles are certainly rare at the mouth of the River or on its banks any were [*sic*] as far as I have had opportunity to penetrate ; I believe but one snake has been by any of the party seen alive & this was taken in the Captains boat. Three or 4 Hippopotames have been seen but these animals are very far from common in any part up to this in the River. One aligator has been killed, it measured 9 feet 3 Inches long, in external appearance it had not the slightest variation from those found in India & America, a few others not above 4 or 5 have been hitherto seen. It

remains now for me to give a list of the birds &c sent, few if any of which I think are new.

Birds &c sent in Tin Case.

No. 11

1. *Certhia*. Length abt. 4 1/2 Inches. Bill much curved & black. Irides dusky color [sic] of the head, neck & whole upper part of the back brightish green. Gorget composed of a line of purple & red. Belly, Tail, Legs & wings black.

2. *Certhia*. Length 4 Inches. Colour in general rusty brown. Legs & tail black, throat a little tinged with purple, back feathers lightish brown. This & the proceeding were shot at Sherwoods Creek. I suspect the last is but the young of the former in an immature [10] state.

3. *Certhia*. Length abt. 4 Inches. Back & upper parts ash colour, throat & belly yellow. Sherwoods Creek. The natives name of the three preceding species is songa.

4. *Sciurus*. Head & Body yellowish brown & black, a light stripe on each side, tail barred with black, given by M. Fitzmaurice, it was brought on board the Dorothy by the natives near Sharks Point. Native name Conchae.

5. Toucan. Length 1 foot, Bill 4 Inches, very irregularly notched. Colour pied, black most predominant. Shot by Dr McKerrow the surgeon in this expedition whose kindness & wish to contribute birds &c to the stock collected demands & has my most sincere acknowledgements.

6. *Mus*. Length about 6 Inches. Tail short, general colour dirty brown, near Sharks point from floating wood picked up along side. Nati[ve] name Nooge.

7. *Scarus*. This fish is plentiful at Sharks point, Sherwoods creek, &c.

8. *Ibis*. General colour brown, back a little glossed with purple. Length abt. one foot, upper mandible of the bill much bent.

9. *Certhia*. Length 4 Inches. Dirty brown. Belly & sides lighter. Legs & bill black.

10. *P. [clecanus] Soola*. Taken at sea on board the Dorothy, it certainly is not a true *Pelicanus*.

11. *Alcedo* — from St Jago, the native names [sic] is Passerine.

12. *Scarus*. Sharks point, Congo R[iver], native name Combe, very common & used as food by the natives.

13. *Ardea* supposed to be the female of *A. [rdea] cinerea*, it is not uncommon in this River. Irides bright yellow. Natives call them En Zeddee.

14. *Plotus Ahinga*, shot near Sharks point. It is not unfrequent in other parts of the River between that & Boma.

15, 16. *Alcedo*. Black & white variegated, common every where [sic] up the River as far as we have yet been. Native name Sympalale Kongatoo^{59a}.

17. Supposed a [?] or a genus akin to it. Bill yellowish orange, lightest at the point, mandibles very compressed, margins extremely thin, the upper valve fits into a groove in the under one. Eyes yellow, color [sic] [11] white & dark brown. Length 1 foot, expands 20 Inches. Common at Sherwoods Creek⁶⁰.

[manque le n^o 18]

^{59a} *Ceryle rudis*, évidemment.

⁶⁰ Evidemment le *Rhynchops flavirostris*.

19. *Ardea Egretta*. Shot & given by Lieut. Hawkey.
 20. *Ardea*. Length one foot. Back, scapulars & wing coverts green. Bill black, the upper part of the lower mandible yellowish. Irides bright yellow.
 21. *Certhia*. Common
 22. *Alcedo* pres^d. by M. Hawkey
 23. *Certhia*. Common
 24. *Certhia*. Sherwoods Creek
 25. *Certhia*. Above Sherwoods Creek, common.
 26. *Falco*. General colour black & white. Irides yellow. Bill light horn colour. Legs dusky, claws long & black, common on the shores of the River.
 27. *Falco*. From Porto Praya, St Jago, shot & given by M. Fitzmaurice.
 28. *Ardea*. Same as 20.
 29. *Corvus*, supposed the collared Raven of Valliant [sic], common here⁶¹
 30. *Ardea*, supp^d. male of the cinerea.
 31. *Caprimulgus*, similar if not the same species as Whip Poor Will of N. America, the note of this bird is also like it, common above Sherwoods creek.
 32. Supposed *Oriolus*, common.
 33. *Ibis*.
 34. *Avocetta Recurvirostra*.
 35, 36. supposed *Coriaceus* [sic, = *Coracias*], common.
 37. *Alauda*, shot at a plantation near Fetish Rock above Sherwoods creek, given by Dr McKerrow.
 38. *Certhia*.
 39. *Caprimulgus Europæus*.
 40. *Tringa squataria* [sic]
 41. *Pelicanus sola*, taken at sea.
 42. *Ardea alba*''.

[B, p. 9-11]

August 7

Benoo

Wednesday August 7

"Shot this morning in one of the creeks near [?] the following birds.

1. Genera not certain : characters external agree with the following description.

Bill rather conic, the upper mandible a trifle largest, 2 long fleshy appendages, from the anterior part of the eye & a horny spine projects from the [?] part of the wing. Legs [bare of feathers] thighs full 3/4 do. Claws 3 all placed forward. Claws short & slightly bent. The individual accords as follows. Bill rather strong & conic, the base yellow, the anterior part black. Nostrils very open. Length bill 1 1/4 Inch. Irides of a pale yellow, from the anterior part of the Eye project 2 fleshy & thin appendages, full 1 3/4 Inch in Length, these are irregular in form & rather taper towards the point, on the upper side orange yellow, as the under for half its length black, from the base of the upper mandible to the nape (?) of the neck across the crown of the head [to the nape (?)] of the neck the feathers are pure white, neck on the upper part & sides ash colour, on the under a slight streak of white extends from the base of

⁶¹ *Corvus albus*.

the mandible. The under part of the breast, belly, thighs, under wing coverts Primaries (the 3 first excepted which have about 3 Inches of the exterior points black), secondaries, coverts of the Primaries, under & upper tail coverts with a small ring on the extreme part of the neck & ab^l. one third from the base of the tail feathers white. Neck bluish ash colour, principal part of the wing coverts, the tip of the tail feathers black. Back lightest brown. Spurs at the extremity full an Inch in length, black, tapering to a point. Legs & feet pale green, toes & nails black. Length 13 Inches from bill to tail (?) do. legs 15 Inches. Length of the leg & thigh (?) full 7 1/2 Inches, the first 6 of which are bare of feathers. Expanse being 2 feet. The only individual noticed & was killed sitting on the sand⁶².

[2] 2. *Ardea*. Bill rather strong, length 3 Inches, the under part of the lower mandible for 3/4 its length dirty yellow. Nostrils open their [?] part yellow; bare space from the bill to the eye & around it dirty yellow. Head black & belly & thighs rather paler, on the upper part of the back are a few long white feathers, the other parts do. are rather dusky blue, primaries secondaries coverts & all upper parts dusky blue. Legs & bare parts of the thighs yellowish. Claws rather long, the middle toe sharply serrated, inner part of the wings rather lighter. Length from the bill to the end of the toes full 2 feet 2, to the end of the tail 4 Inches less. Eye extremely large the irides brown. Shot by Dr Smith as flying across a small creek, Aug. 7. Tail short, feathers 12, a trifle rounded.

3. *Gallinula*⁶³. Length from bill to toes 17 Inches. To the tail very little more than 10. Bill blueish, crown of the head, upper part of the neck with a small spot at the base of the upper mandible black, cheeks, a streak above the eyes & sides of the neck white. Throat & lower parts of the breast yellowish. Back & belly reddish brown darkest on the latter. Primaries & principle [sic] part of the secondaries of a dark greenish tinge. Legs dusky, the toes remarkably long, the largest being 3 1/4 Inches.

4. *Tringa*. Evidently the Purre of Montagu⁶⁴, it is not a common bird here.

A species of Heron was also seen perhaps allied to cinerea & a few other birds".

[D, p. 1-2]

August 8

"August 8. On the adjacent shore of [sic] which we lay shot in the morning 3 birds—1 *Psittacus*. Bill bluish, the base & point of the upper mandible black. Irides bright yellow. Space immediately beyond (?) the [1 mot manquant] rather dusky & bare of feathers, at the base of the bill & front of the head black the feathers edged with grey. Head back, upper part of the tail feathers dusky brown, under side (?) of the body & tail rather lighter, the latter more inclined to rufous. Legs & feet nearly red, particularly on their anterior part, nails quite black. Back a fine red brown, wing coverts & quills nearly the colour of the head. Tail of 10 feathers, the 4th from the exterior one at least 2 Inches longer than any of the others. Length from bill to neck (?) 5 Inches, from do. to tail 1 foot, flies in flocks⁶⁵.

⁶² *Xiphidiopterus albiceps*.

⁶³ Evidemment *Actophilornis africana*.

⁶⁴ Ornithol. Dict., éd. E. Newman, s.d., p. 260 (*Tringa cinclus*).

⁶⁵ S'il s'agit bien comme on peut le penser du *Psittacus erithacus*, comment se fait-il que Cranch ait oublié la queue rouge?

[3] Aug^t 8

2. *Columba. Rustica*.—A specimen this day that differs so [?] from the European species that description is unnecessary.

3. *Turdus*. Length 8 Inches from bill to extremity of tail. General colour the head & back olive green, throat & belly very pale yellow. Irides yellow. Tail very slightly rounded (?) & the same colour as the head. Legs pale flesh colour. Bill dusky, under wing coverts yellowish.

[?] few other birds were seen & not a single animal of any description " [D, p. 2-3]

August 11

"Sunday 11. Fish. Length 2 f. 4, greatest depth ab^t. 6 Inches. Branch. rays 4. Head rather depressed. Snout obtuse, lips double, a simple row of teeth ab^t. 30 in each jaw, which are truncate at the ends, nearly uniform in size & rather distant from each other. Head very smooth. The eyes sit. [uated] ab. 1 1/2 Inch from the snout, there [sic] are remark. [ably] small not exceeding 1/8 Inch diam. The skin of the h^d forms a complete covering over them, the body is rather thick. Back appears completely smooth, sides cover^d with large reddish scales very soft in texture but firmly united to the body. Tail slightly fork'd the points however are rounded. The dorsal fin commences ab^t 10 Inches from the tail & terminates about 4 from the caudal fin, 23 rays, these gradually decrease from the first 4 or five. Pectoral fins ab. 3 Inches long, 10 rays & are a trifle rounded, abdom^l fins very small, not exc^d an inch [sic] in length, of stiff 6 rays, anal opening very conspicuous, immed. behind which commences the a. fin 46 rays gradually declining in length of rays from the 6 or 7th. Irides yell[ow]. General colour of the head yellowish, back & sides yel. brown the latter strongly red, tail nearly red. Weigh ab. 8 pounds. Tu bulue, Tu bulo, native name. Said to be not uncommon & of superior size at Dooki Congi. Native say 2 these [?] the only one I have seen given by Captⁿ Tuckey⁶⁶."

August 12

[4] "Monday 12. 1. Bird.—Length from the bill to the extreme end of the centr[al] tail feather 9 Inches. Bill lead colour, inside of the mouth yellow. The upper mandible slightly hooked & extending ab. 1/16 I[nch] beyond the other 3/4 I[nch] in length, several long black bristles at the base of the mouth. Irides dusky. Head, upper part of the throat & hind part of the neck deep & bottle (?) green, under part of the neck, belly, thighs smowky [sic] blue. Back, tail, under coverts, upper wing coverts & the outer edge of the second[ary] feath[ers] of a rich brown. Tail of 12 feathers, the centr.[al] one near 1 Inch long[er] than any others prim^s quills f.[eathers] nearly black, the edges very slight[ly.] ting^d. with brown. Legs black. Perhaps shrike.

Very few birds frequented the place (Nookae) were [sic] this solitary individual was shot.—Doves . . .

2. At a small island ([?] Kacanso) M. Hawkey shot a Toucan—Length 2 feet, bill ab^t 3 1/2 [Inches] long very slighly notched. Irides reddish, bill very pale horn

⁶⁶ *Mormyrops deliciosus* ; un croquis à l'encre.

colour. Feathers on the h^d a trifle elongate forming a thick crest. Head, neck, back, breast deep glossy green. Primaries heavy black. Secondaries 2/3 of the [?] white. Tail coverts, belly, thighs & one half the exterior of the tail white. Legs brown. Tail rather rounded. Legs feather^d below the knee.

3. Toucan. Length 21 I[nches]. Bill orange, the notches irregular but more distant than in the former, base nearly white 3 1/4 I[nches], whole upper parts ash colour. Head slightly variegated [sic] with white. Belly, thighs & tips of tail fea[thers] white, 10 f.[eathers] on tail longer than the former, prim.[aries] & tail nearly black. Irides bright yellow. Legs & claws dusky.

4. Plover. Base of the bill red, point black, length of body 7 1/2 Inches. Upper parts light ash colour, a streak of white from the eye round the neck, belly, head & upper tail coverts white. Tail slightly forked, the bar (?) white the [?] ones 2/3 do, expanse ab^t 16 Inches. Legs red, claws black. Flies in flock on the main land opposite the island before ment^d. [?] *Alcedo*, not uncommon " [D, p. 4]

Les entrées des 13-16 août trop peu lisibles pour pouvoir être utilement transcrites. La note du Friday 16 se termine par " Hippopotamus heard in night "; pour Saturday 17 il n'y a que la date : c'est sans doute, dans le présent dossier, le dernier mot écrit par Cranch, peu avant de tomber malade le 23 août.

August 17

(Nomaza Cove, au retour de l'expédition à Yellala)

" During my absence the seine was hauled, but not a single fish was taken. The only implements of fishing seen with the natives were the scoopnet, already spoken of, and a kind of fish pot of reeds. The fish we could prove from them are all very small, with the exception of one which I bought, and whose skin Mr. Cranch preserved. It appears to be of the genus *Murena*. Testaceous fish are extremely few ; a single shell (*Helix*) found on the summit of one of the hills near a fishing hut, and an oyster taken up by the dredge, are all we have been able to procure " (H b, p. 157).

August 22

" In the morning we found we had pitched our tent over a nest of pismires ; but although we were covered with them, not a person was bitten, any more than by the musquitoes, who, from its shade and humidity, had chosen this as their head quarters. At day-light we were roused by the discordant concert of a legion of monkeys and parrots chattering, joined with that of a bird named by the natives booiloso (a crested Toucan) having a scream between the bray of an ass and the bleat of a lamb ; another, with a note resembling the cuckoo, but much hoarser ; and another crying " whip poor will " (a species of goat sucker). We also found that several buffaloes had been to drink at one of the holes in the rocks, about 200 yards from one of our tents." (H b, p. 173)

September 6

Bay of Bobomga : " An alligator was swimming in the lake, and another before the mouth. Traces of hippopotamis were seen everywhere. Shoals of fish abounded in the small creeks. A *Haematopus* and several other birds were seen " (H c, p. 334)

September 7

“ Near some rocky island, a number of small *Charadrii* were seen ” (H c, p. 334).

September 8

“ A young *Mustela* was seen ” (H c, p. 335)

V. LES ILLUSTRATIONS

Le ms 681 renferme un certain nombre de dessins en noir, au crayon ou à la plume et en couleurs (aquarelle).

Les pièces comportant des illustrations sont les suivantes :

1. A, cf. p. 9-10
2. C, cf. p. 10-11.
3. G, recueil de 35 feuillets illustrés (35 Poissons, 1 Crustacé, 1 Céphalopode) ; cf. p. 11.

On retrouvera reproduites ici quelques illustrations parmi les plus intéressantes et plus faciles à reproduire. Divers croquis de personnages non reproduits sont amusants d'ailleurs par leur extrême maladresse.*

Si les figures de A et de C sont certainement de Cranch, celles de G sont ou sans auteur indigué avec pourtant la mention “ Hawkie ” ou, plus rarement, “ Smith ”. Quand le même poisson se retrouve dans un manuscrit de Cranch et dans le recueil G, on se demandera si l'une des figurations dépend de l'autre et, dans ce cas, laquelle.

“ 35 drawings or sketches of Fishes.—From the voyage to the river Congo by Smith, Hawkie (*sic*) & J. Cranch ”.

A = auteur, D = description, Aq = aquarelle, C = crayon, I = identification.

- [1] “ April 10th ” ; Aq (bleu clair) ; A : ? ; date probablement fausse : le 10 avril, Cranch était à Porto Praya ; I : *Sternoptyx diaphana* Hermann 1781.
- [2] “ April 26 ” ; C : “ Red, fins scarlet ” ; A : ? (sans doute Cranch puisqu'il y a, de la même espèce, 1 croquis doc. C, p. 9) ; I : on pourrait songer à un jeune *Vomer* (mais la couleur rouge ?) ou à quelque Ptéraclididé (aff. *Pterycombus*).
- [3] “ May 2nd to the termination ” ; Aq (vert très pâle) ; A : I : Leptocéphale.
- [4] “ May 3. 1816 ” ; Aq (gris) avec un croquis au crayon de la bouche (dents sectoriales en bas, coniques en haut) ; A : ? ; I : apparemment un Dalatiidé, par les dents, mais les 2 dorsales sont figurées bien rapprochées ; ou un Echiurhinidé car *Echinorhinus brucus* (Bonnaterre 1788) a bien les 2 dorsales rapprochées ; serait-ce un *Echinorhinus* juv. ?
- [5] “ May 4. ” ; Aq (gris) avec un croquis de la tête au crayon ; A : ? ; I : Leptocéphale.
- [6] “ May 4. Preserved in Bot. 1909 ” ; Aq (gris pâle) ; A : ? ; I : probt. un jeune *Lepidopus*.
- [7] “ May 5. 1816. Preserved in Bot. 1909. 2 specimens ” ; Aq (bleu avec bandes verticales outremer) ; A : ? ; I : évidemment le *Nomeus albula* (Meuschen) = *N. gronovii* (Gmel.)

* Des photographies des illustrations non reproduites dans cet ouvrage ont été déposées dans la BIOLOGICAL DATA COLLECTION, General Library, British Museum (Natural History), où elles peuvent être examinées.

- [8] sans date, " Preserved in Bot. 1909 " ; Aq (gris-bleu, à bandes verticales) ; A : ? ; I : probablement encore un *Nomeus*, mais bien mal dessiné.
- [9] " May 13.1816 " ; C ; A : ? (sans doute Cranch puisqu'il y a 2 autres croquis, doc. A, p. 12 (haut) et C, p. 27, haut) ; D : doc. A, p. 12) ; I : Exocétidé juv. à appendices mentonniers (? *Cypselurus* ou *Cheilopogon*).
- [10] " May 13.1816 " ; C : " no scales, yellow, eyes yellow, pupil purple " ; A : ? (sans doute Cranch puisqu'il y a 2 croquis, doc. A, p. 12 (bas) et C, p. 27, bas) ; D : doc. A, p. 12 ; I : un Gonostomatidé (*Cyclothone*?) mal figuré? On voit assez bien les organes lumineux.
- [11] " May 20. Length 2 inches. Depth 3 1/8—. No teeth, no scales perceptible " ; Aq (dos bleu foncé, côtés et ventre bleu pâle avec des points jaune verdâtre) ; A : " Hawkie " ; I : un jeune *Naucrates* ?
- [12] " May 22.1816 ". Aq (bleu à petites taches jaunâtres) ; A : ? (il y a 1 croquis doc. A, p. 16) ; D : doc. A, p. 15-16 ; I : jeune de *Scyris* (ou genre voisin) ?
- [13] " May 25.1816. Length 4 inches. *Syngnathus* " ; Aq (brunâtre) ; A : " Hawkie " ; I : probt. le jeune de *Syngnathus pelagicus*.
- [14] " May 26. Teeth. 1 1/4 Inch Long, 1 1/2—deep " ; Aq (gris à bandes verticales) ; A : " Hawkie " ; I : très jeune *Naucrates* ? (cf. n° 11).
- [15] " May 27. No scales. Slimy fish. Length 2 1/2 inches. Depth 1/2 inch " ; Aq (gris) ; A : " Hawkie " ; I : très jeune *Coryphaena* ?
- [16] " May 28. 2 inches long, 3 1/4—deep " ; Aq (brun, rose et jaunâtre) ; A : " Hawkie " ; I : Monacanthidé juv. (*Alutera*?).
- [17] " May 29. Length 6 1/2 inches. Tail 3 " ; Aq (gris et rose) ; A : " Hawkie " ; I : d'une autre écriture : " *Syngnathus Hawkianus* ", en réalité une jeune Fistulaire, avec les lobes latéraux de la caudale non figurés.
- [18] " May 30. Natural size " [70 mm] ; Aq (du rose et du jaune) ; A : " Hawkie " ; D : doc. A, p. 18 mais à la date de " June 1 " ; I : zoé géante de Porcellanidé.
- [19] " May 30 " ; Aq (blanchâtre ponctué de rose) ; A : " Hawkie " ; I : Céphalopode (*Cranchia maculata*, plutôt que *scabra* puisque la surface du corps semble lisse).
- [20] " May 30th, full size [12 mm], pale blue " ; Aq ; A : " Hawkie " ; I : Téléostéen juv.
- [21] " May 30, full size " [24 mm] ; Aq (dos bleu, ventre rosé) ; A : Hawkie ; I : jeune de Carangidé (*Scyris*?).
- [22] " May 30. Natural size " [21 et 22 mm] ; Aq (dos gris bleu) ; A : Hawkie ; I : deux très jeunes Tétrodontidés.
- [23] " June 10. 1816. Red with golden spots " ; Aq ; A : ? ; D : doc. A, p. 21, avec croquis ; I : *Balistes* juv. (ou Monacanthidé?).
- [24] " 10th June. Natural size " [2 images, 50 et 44 mm] ; Aq (brun) ; A : " Hawkie " ; D : doc. A, p. 20 ; I : *Histrio histrio*.
- [25] " June 10. 1816 " ; Aq (bleu foncé à taches dorées) ; A : ? (probt. Hawkey) ; D : doc. A, p. 20 (le même texte pourrait s'appliquer aux 2 spécimens 24 et 25), avec croquis bien moins mauvais que l'aquarelle ; I : sans doute encore *Histrio histrio*, mais la coloration semble un peu surprenante.
- [26] Aq (brun tacheté) ; A : " Hawkie " ; I : encore *Histrio histrio*.

- [27] " 11th June " ; Aq (gris et rosé) ; A : ? ; I : figure reconnaissable d'*Argyrolepecus affinis*.
- [28] " 15 June " ; Aq (gris foncé) ; A : ? ; I : tout à fait énigmatique ; je ne vois même pas la famille.
- [29] " 15 June " ; Aq (gris) ; A : " Hawkie " ; I : un Exocétidé juv.
- [30] " 16 June " ; Aq (gris et rose) ; A : " Hawkie " ; I : je ne puis même pas identifier la famille.
- [31] " No scales " ; Aq (jaune à bandes verticales beues) ; A : ? ; I : même remarque que pour le précédent.
- [32] Aq (gris brun avec une série de taches marginales) ; A : " Hawkie " ; I : d'une autre main : "*Solea chrysophthalmata*", mais ce Pleuronecte juvénile est totalement inidentifiable, naturellement.
- [33] C ; A : Smith ; I : apparemment un Pleuronecte très jeune (le dessin n'est pas mauvais).
- [34] Aq (jaunâtre) et détail de la tête ; A : Smith ; I : Leptocéphale.
- [35] " Preserved in Bot. 1909. 1 specimen " ; Aq (gris avec lignes transversales-obliques de petits points bleus) ; A : ? ; I : Leptocéphale.

VI. LES COLLECTIONS

On l'a vu par l'inventaire du MS. 681, ce dossier renferme, outre plusieurs états d'un journal où sont mentionnés de très nombreux animaux observés ou capturés, une série de listes se rapportant à des récoltes (C/6, 9-13 et E). Il ne m'a pas semblé nécessaire de reproduire toutes ces listes et je me contenterai de donner le document E, " A List of specimens pres^d in spirit ".

C'est un document intéressant ; il n'est pas daté et la dernière date de récolte y est le 15 juin ; on pourra donc se demander s'il ne s'agit pas du catalogue d'un premier envoi et qu'aurait accompagné, avec la lettre à Banks du 29 juin, le document B.

La liste est divisée en colonnes : Numb.[ers], subdivisés en " Lead " et " Glass "—Genera—Number pres^d—When taken—Remarks.

Le système d'inscription et de numérotation est incompréhensible : si la série " Lead " est régulière (1-48), la série " Glass ", d'ailleurs lacunaire, ne paraît suivre aucun ordre : 95-757- $\frac{1352}{Z.2}$ -295- $\frac{5340}{N.2}$ -191, etc ; les dates ne se suivent pas non plus. On eût pu penser que " Lead " représentait une série de contenants principaux⁶⁷ à l'intérieur desquels des récipients plus petits (série " Glass ") eussent trouvé place, mais il semble cependant qu'il n'y ait qu'un numéro " Glass " par numéro " Lead ".

Un document conservé dans le dossier P.R.O., Admiralty e/2617 donne une liste d'objets " forwarded from Boma by Tuckey " ;

- 16 spec. of minerals—Smith
- 2 spec. of the country money—Tuckey
- 1 musical instrument—Tuckey
- 1 specimen of hard wovel—Tuckey
- 1 tin case of seeds—Smith

⁶⁷ Pour lesquels on se fût d'ailleurs plutôt attendu à une désignation telle que " barrel ", etc.

TABLE I
A List of specimens preserved in spirit

Lead	Numb.	Genera	Number pres ^d	When taken	Remarks
1	Glass 299 62	<i>Lepas</i>	Several	March 28	From the back of a Turtle.—It includes at least 2 distinct species one the <i>L. anatifera</i> of Linne & the other very nearly allied if not <i>L. membranacea</i> of Montagu.
2	482	Thalide	Few	April 17	Floating on the surface of the sea. the margin is of a bright blue, or green. the tentacles on the under side principally white.
3	328	<i>Salpa</i>	Three	April 3	These animals look very beautiful floating on the sea.
4	452	Vellele	Several	3	the crest is generally above the water. tentacles & sides are of a fine blue
5	—	<i>Lepas</i>	Several	5	Most of these <i>Lepas</i> are adhering to <i>Nautilus spruta</i> . The peduncle is blue. I suspect there are 2 species in the bottle.
6	—	<i>Tetrodon</i> } <i>Diodon</i> }	One Three	7 May 22.23	One <i>Tetrodon</i> in this bottle was olivesh when taken it was a pretty subject. the back was bright blue with dark stripes across it. The 3 <i>Diodon</i> were also living when taken from the net.
7	—		Few	April 3. 23	It appears to me a univalve shell. all taken are pres ^d The single flask shaped one has the animal. it appeared when alive not unlike a <i>Septia</i> .
8		Fish	One	April 17	
9		<i>Ceteodon</i>	Several	20	Seldom taken but at night & then rarely perfect
10	95	Fish	Several	May 13	Young taken from <i>Squalus carcharias</i>
11	757	<i>Squalus</i>	Three	April 18	This bottles [<i>sic</i>] contains <i>Crustacea</i> taken from the fin of a white shark. & sev ^l animals found in the stomach of Albicore & Bonettos (<i>Scomber</i>)
12	1352 Z.2	Various	Several	22	It is suspected this squalus is different from any species we know. we took a smaller specimen May 3—the <i>Echeneis</i> is (<i>E. remora</i>) from the White Shark.
13		<i>Squalus</i> <i>Echeneis</i>	2 of each	17	This bottle contains <i>Balistes</i> taken 20.23 May. Sev ^l of a very thin fish. taken from Ap. 18 to June 1—One Fish see May 22.
14		Various	Several		

15	295	<i>Aphrodite</i>	Sev ¹	May 22	Taken a small piece of floating wood. 28 June added a species of <i>Lumbriculis</i> taken in the dredge it inhabits a weed into which it had perforated & made a compact cell.
16	5340 N.2	Fish	Sev ¹	May 21	
17	191	Fish var.	Several	May 3	17. One Pilot Fish May 3—Sev ¹ Cottus sev ¹ 23rd May—2 Fish May 22. One do 22.
18	227	Fish var.	Several	20	Sev ¹ flying fish small. One with beard taken May 16. this perhaps is distinct the others probably young. One fish blue allied to <i>Sparus</i> May 14.
19	968	<i>Exocoetus</i>	One	14	This species has two long appendages to the under lip—In this bottle is also contained a few other small fishes taken from the stomachs of <i>Scomber</i> .
20		<i>Exocoetus</i>	One	14	It supposed to be distinct from <i>E. volitans</i> . the flight is seldom far we saw them very numerous in Gulf of Guinea.
21	394	<i>Tetradon</i> Ord Apode	Three One	18	The frgt of <i>Tetradon</i> was taken from <i>Scomber</i> —the 2 others & the head of one of the same species in the nett.
22	970 a.a.	Fish	Sev ¹	18.20	the same species as before n° 10.95 but of larger size.
23	1909	<i>Halix. Lepus</i>	Sev ¹	Ap ¹ 10. May 20	Taken at various times April 10 to May 20, beyond which time to this June 11 we have not had a single specimen.
24	1942	<i>Mollusca</i>	Sev ¹	May 19	Nearly pellucid when living
25	2007	<i>Crustacea</i>	Sev ¹	Ap ¹ 8 June 1	The greater part of these were taken from the stomach of fish—The <i>Oniscus</i> of the largest size is from the pectoral fin of <i>Ex. Volitans</i> to which it firmly adhered.
26		<i>Crustacea</i>	Sev ¹	April June	The largest of these is very common in the Lat. We were in May 1. 10.20. the others we took in April 12.18 & to the latter end of that month both of these have some parts of them luminous.
27	196 K.2	Fish	Sev ¹	[2] April May June	this fish is singular for its large & formidable arm'd jaws. it is undoubtedly predatory on perhaps some smaller species some shrimps & Crustacea were taken from the stomach of one or two opened. It appears not far removed from gen. <i>Anarhichas</i> .
28		Crust.	Numbers	April 10 to June 8	this is a common species of animal on this part of the E side of the Atlantic. parts of them appear very luminous. perhaps there are at least 2 species in Bottles 28-29.
29		Crust.	Many	Do	Same as 28
30		Fish	Three	April 22	
31		<i>Sepia</i>	Several	May 19	this species appears allied if not the same as <i>S. octopoda</i>

Numb.	Genera	Number presd ^d	When taken	Remarks
32	Fish	Sev ^l	April 1 to June 1	Very abundant at Night & luminous, sometimes as many as 20 taken at one time in the net—there is also another species which differs in the body being round & much less [—] both are presd ^d . A common species in these parts of the sea but most plentiful by night.
33	Crust.	Many	April May } June } May 30 May 28 June 13	Taken after night in the nett, one being taken in the hand the inhabitant immediately withdrew within its shell & it is so capable of retracting itself that scarcely any of the tentacles are visible. On being placed in a cup of sea water one of them very shortly after wholly quitted its shell not leaving even the slight test membrane, its animal is very similar if not a true <i>Sepia</i> . This is certainly a very singular species we can find no Genera to which it is at all referable. <i>Argonaute Argo</i> . Animals.
34	Moll.	One		
35	<i>Lepas</i>	Sev ^l		
36	Argonaute	Two		
37	Fish	Five	June 10	
38		Two	June 14	
39	<i>Sepia</i> <i>Balistes</i>	Two	May 28	
40	Fish	Four	June 14 May 14 28 June 15 [3]	At least 3 distinct species
41	<i>Crustacea</i>	Sev ^l	May 16 to June 4	The <i>mollusca</i> is this bottle are luminous
42	Fish <i>Salpa</i> <i>Crustacea</i>	Sev ^l	June 8 June 5	The <i>Echenis</i> was taken by the dredge in about 40 fathoms. The <i>A. hians</i> 2 in the evening. this contains two species
43	<i>Echenis</i> <i>Argonauta</i>	One } Two }	June 5 June 5	
44	Fish	Four	June [?]	
45	Various	Sev ^l	May 30	
46	<i>Mollusca</i>	Two	June 13	This singular species bears strong resemblance in part to the [?] of an Elephant, the snout is retractile.
47	<i>Mollusca</i>	Sev ^l	May 8	
48	<i>Mollusca</i>	one	May 1 [4] rien [5]	

Subjects preserved in the small Bottles in one of the drawers of the Cabinet.

- 2 bones of Hippopotamos—Tuckey
- 1 case of plants—Smith
- 1 box stuffed birds—Tudor
- 1 case of preserved animals—Cranch

Cette dernière caisse aurait-elle contenu les collections de la " List of specimens preserved in spirit " ?

En tout les cas, un certain nombre des spécimens récoltés par Cranch sont arrivés à Londres, ceux au moins dont Leach allait dans l'Appendix IV de la " *Narrative . . .* " fournir une sommaire et incomplète énumération.

Mr. P. J. P. Whitehead, du British Museum (N.H.) a découvert d'intéressants renseignements sur certains objets récoltés par Cranch et déposés au Hunterian Museum. Il a bien voulu me permettre, ce dont je lui suis très reconnaissant, de reproduire ci-dessous ces intéressantes précisions :

" Another institution which showed great interest in the Congo Expedition was the Hunterian Museum of the Royal College of Surgeons in London. The Curator, William Clift, records that the College supplied two chests (presumably filled with collecting jars) to William Tudor for this expedition. Unfortunately, the chests were never returned. Clift also records that Leach donated specimens to the College, and that some of these were duplicates from the Congo Expedition. This information, which is contained in the third volume of the Donation registers of the College (i.e. 1817-22) is of sufficient interest to be quoted in full. Donation 842. for 1817.

" Sept. 19th. Received from Dr Leach, for Sir Everard Home, Eighteen small specimens of Fishes ; Three of Amphibia ; Two dried Skulls of Fishes ; and four ditto of Toucans ? or Hornbills,* from the Congo Expedition.

(* See note opposite)

No list of names

Dr Leach was to have named them
but became incapable from ill
health.

Put up Marked from 1-20 In a row behind Nat. History, Fishes "

On the opposite page is a note on this collection.

" Mem. to 842. Two boxes were fitted out by the College, and sent in Charge of Mr William Tudor, Surgeon and naturalist to the Congo Expedition. He unfortunately died ; and his effects were as usual sold ; but who purchased or purloined the Boxes, which were deeply cut as " *Belonging to the Royal College of Surgeons in London, to the care of Mr Tudor* " I never could learn ;—although I applied to Mr Barrow, at the Admiralty ; and to Dr Leach, and Mr Konig, at the British Museum ; who received the Boxes sent out by *them* in charge of Mr Cranch ; who also died.—

" Saturday Morning Dec^r : 6. 1817

Dear Sir When I sent the Congo Duplicates, did I not send several specimens of a head somewhat resembling the above ? [sketch given] If you will oblige me by returning one by the Bearer—faithfully yours W. E. Leach

(*Buceros fasciatus*) "

It would appear that these specimens were lost during the bombing in 1941."

Il est probable que l'éditeur de la "*Narrative . . .*", Sir John Barrow, soucieux de voir sortir au plus tôt le volume consacré à la malheureuse expédition aura pressé Leach de fournir son chapitre sans attendre l'étude détaillée du matériel. Il faut reconnaître d'ailleurs que parvenir à publier dès 1818, moins de deux ans après le retour des navires, le gros volume de la "*Narrative . . .*", représente une réussite d'autant plus remarquable qu'il s'agissait d'un ouvrage collectif.

Il n'a pas paru sans intérêt d'essayer d'établir une liste des espèces récoltées par Cranch, parvenues en Europe et identifiées ou décrites par divers zoologistes.

Il est d'ailleurs certain que beaucoup des spécimens récoltés par Cranch ou ne sont pas parvenus en Europe ou se sont révélés inutilisables : Leach spécifie (1818, p. 419) qu'au moins une caisse d'animaux en alcool et " a very large proportion of the birds " ont été perdus ; il ajoute même que sur les Oiseaux arrivés à Londres la plus grande partie était " totally destroyed by insects " et que la plupart des Insectes " were entirely destroyed by insects and damp ".

I. Cnidaires

1. Siphonophore—C, p. 40, descr. et fig. ; *supra*, p. 11

2. *Porpita granulata* [n.sp.]—Leach, 1818, p. 418, 8°12'0"N—18°13'7"W (cf. A, p. 5-6) ; cette espèce est mise avec doute en synonymie avec *Porpita lütkeana* Brandt par Lesson (Hist. Nat. Zooph. Acalèphes, 1843, p. 588 [*P. granulosa* (sic)]—589), en attribuant par erreur l'espèce à Cranch alors qu'elle est, bien entendu, de Leach.

3. *Verella scaphidea* Pér. et Les.—Leach, 1818, p. 419, 26°34'0"N—18°28'0"W (cf. A, p. 1-2 ; *supra*, pp. 11, 18 et pl. 3, fig. 3) ; l'identification serait douteuse *vide* Lesson, *loc. cit.*, p. 573 ; Leach ne cite ni date, ni localité.

4. *Verella pyramidalis* [n.sp.]—Leach, 1818, p. 419, pourrait être *V. caurina* Eschsch. d'après Lesson, *loc. cit.*, p. 578.

II.—Trématodes

1. *Hirundinella*—C, p. 26, plusieurs croquis, [non reproduits] cf. Leach, 1818, p. 418 : " Found in the stomach of an Albicore. The bulb at the extremity oval but tapers rather to the extremity, the connecting part is very like the wind pipe of an animal consisting of numerous concentric. (?) & retractile rings at *a* it is a small oval opening perhaps the anus, from there [?] projects a slender tube at the end of which the mouth has this form ". Length of the an.[imal] 1/3 Inch. "

III.—Polychètes

1. *Nereis* sp.—Leach, 1818, p. 418 [*Aphrodite* (A, p. 16 ; E. p. 1)], 22 mai, sur " a small piece of floating wood " (lead 15, glass 295).

2. *Lumbricalis*—E, p. 1, 28 juin, " taken in the dredge, it inhabits mud into which it had perforated & made a compact cell " : est-ce l'Annélide appartenant à " a genus not known to me " (Leach, 1818, p. 418) ? L'auteur la dit prise *avec* celle du bois flotté : il semble plutôt que les 2 spécimens aient été simplement dans le *même* contenant.

IV.—Crustacés

1.—Copépodes

1. *Pandarus Cranchii* [n.sp.]—Leach, Dict.Sc.Nat., XIV, 1819, p. 535, 1°S—4°E (position qui ne correspond d'ailleurs pas à celles que nous connaissons) ; certainement récolté par Cranch dans le Golfe de Guinée et probablement sur le "*Squalus glaucus*" pris le 22 avril et sur les pectorales duquel Cranch recueillait une série de "Crustacea perhaps *Onisci*" (A, p. 7)—B.M. (N.H.), White, 1847, p. 119 : 2 spec. J. Cranch.

Il est inexact comme l'affirme Lewis (Proc. U.S. Nat. Mus., 118, 1966, p. 90) que "*Pandarus cranchii* and *P. satyrus* were synonymised by Shiino (1954)" ; en réalité, Shiino (Rept. Fac. Fish. Pref. Univ. Mie, 1, No. 3, 1954, p. 312 et 323-325) place dans la synonymie de *Pandarus satyrus* Dana 1852 les *P. cranchii* de Steenstrup & Lütken (1861) et de Rathbun (1886) mais nullement le *P. cranchii* de Leach (1819) : d'ailleurs, dans ce cas, l'espèce de Leach étant très antérieure à celle de Dana, Shiino n'eût évidemment pas utilisé pour l'espèce le nom de cette dernière.

2. *Caligus*, 2 nov. spp.—Leach, 1818, p. 418 l'une au moins de ces 2 espèces est sans doute le *Nogaus latreillii* Leach, Dict.Sc.Nat., XIV, 1819, p. 536—(B.M. (N.H.) White, 1847, p. 118, 2 spéc. J. Cranch) qui est le mâle de *Pandarus cranchii*.

2 bis. *Lerneæ cyclophora* Blainville 1822, p. 438, pl.n.num. fig. 7 et 1823, p. 122 : "Je ne connais cette espèce, qui me paraît bien distincte, que d'après une figure manuscrite du Voyage des Anglais au Congo". D'après Brian, Copedodi parasiti dei Pesci d'Italia, 1906, p. 89 et Wilson, Proc.U.S.Nat.Mus., 53, No. 2194, June 13, 1917, p. 39, *L. cyclophora* serait synonyme de *Lernaenicus sprattæ* (Sowerby 1806) Olsson 1868.

2 ter.—Copépode parasite (fam. Lernaecidae)—Blainville, 1822, pl.n.num., fig. 17 : "Espèce de Lerneïde articulé, copiée des manuscrits du Voyage des Anglais au Congo, mais sur laquelle je n'ai aucun détail" : d'après Baird, Nat.Hist.Brit. Entom., 1850 (p. 341) il s'agirait encore du *Lernaenicus sprattæ*.

Ces deux dernières références soulèvent un problème curieux. Il faut remarquer, d'abord, qu'aucune des deux figures que Blainville signale avoir empruntées aux manuscrits du Voyage au Congo, donc à ceux de Cranch, ne se retrouve dans ces derniers. D'autre part, Baird écrit en 1850 (*loc. cit.*, p. 340), jugeant que les figures en cause sont empruntées non à Cranch mais à J. Sowerby : "How he [Blainville] saw the original figures of Sowerby it is difficult to say ; perhaps in the possession of Dr Leach⁶⁸. He has, however, in his paper in the "Journal de Physique" . . . reproduced the two figures, the one *in situ* of the natural size, the other the magnified sketch of the upper portion only, and described them as two distinct species! The only information, he adds, that he has concerning the two species is, "that they are copied from MS. drawings of the English voyage to the Congo!" Baird ajoute que dans la figure de *L. cyclophora* le petit cercle tenu pour la tête du Copépode est, dans Sowerby . . . l'oeil du Poisson parasité.

Grâce à l'amabilité du Dr A. L. Rice, j'ai pu prendre connaissance de l'article de J. Sowerby, "LERNEA Sprattæ", The British Miscellany, II, 1806, p. 17-18, tab

⁶⁸ Cette supposition est d'autant plus intéressante qu'elle doit se voir formulée également pour les papiers de Cranch.

LXVIII, datée June 1, 1806. Ce que rapporte Baird est parfaitement exact : les fig. 7 et 17 de Blainville (1822) sont bien empruntées à Sowerby (1806) et la " tête " du *Lerna cyclophora* Bl. est tout simplement l'oeil du poisson-hôte.

Est-il par conséquent possible que si Blainville a vraiment vu la planche de Sowerby (avec le poisson parasité, ce qui ne pouvait provoquer aucune confusion quelconque) il ait pris l'oeil, sur lequel sont fixés d'ailleurs deux Copépodes, pour la tête de son *L. cyclophora*? De plus, Blainville décrit deux espèces, *L. cyclophora* et le " Lernéide articulé " : un seul coup d'oeil à la planche de Sowerby eut permis de voir qu'il s'agissait d'une même espèce, une fois fixée sur l'hôte, une fois avec la partie antérieure dégagée. Enfin, Blainville ne parle pas de l'hôte, qui est pourtant cité dans Sowerby.

Pour ces diverses raisons, on devra conclure que Blainville n'a pas emprunté ses figures directement à la publication de Sowerby. Et ceci expliquerait peut-être ce que dit Baird d'un emprunt, non à l'article de 1806 mais à des " original figures " (communiquées par Leach ?). On songerait plutôt à quelques maladroitement copiées des figures de Sowerby, sans le poisson, parvenues sans le texte correspondant entre les mains de Blainville et, de plus, sans provenance bien précisée puisque ce dernier les attribue au dossier Cranch.

Blainville aura peut-être mélangé dans ses notes un document Sowerby (copie manuscrite, et incomplète, de la planche de 1806) et les papiers Cranch, prêtés par Leach⁶⁹. D'où la confusion du texte imprimé, attribuant à celui-ci ce qui appartenait à celui-là.

On doit ajouter : 1° que les deux figures ne se trouvent pas dans le dossier Cranch et 2° que ce dernier n'aurait guère pu recueillir des sprats ou des sardines parasitées par le *Lernaenicus* que tout au début de l'expédition, à une période où aucune récolte n'est cependant signalée (la première semble avoir été du 28 mars, par env. 36°15'N) ; il est vrai que les civils de l'expédition avaient quelque peu souffert du mal de mer . . . La confusion de Blainville entre des dessins de Sowerby et ceux de Cranch semble donc tout à fait vraisemblable.

2. Cirripèdes⁷⁰

1. *Cineras Chelonophilus* [n.sp.]—Leach, 1818, p. 412 (= *Conchoderma virgatum* (Spengler 1790) Olfers 1814), " on some turtles ", 36°15'0 N—16°32'0 W, donc 28 mars 1816 (cf. *supra*, p. 17).

2. *Cineras Cranchii* [n.sp.]—Leach, 1818, p. 412 (= *Conchoderma virgatum*), sans provenance (devenu *Cineras Cranchianus*, Leach, 1825, p. 212).

3. *Cineras Olfersii* [n. sp.]—Leach, 1818, p. 412 (= *Conchoderma virgatum*), sur "*Fucus natans*" (devenu *Cineras Olfersianus*, Leach, 1825, p. 213).

4. *Pentalasmis Cheloniae* [n.sp.]—Leach, 1818, p. 413 (= *Lepas Hillii* (Leach 1818) Darwin 1851), " on turtles " (avec *Cineras Chelonophilus*) 36°15'0 N—16°32'0 W.

5. *Pentalasmis Hillii* [n.sp.]—Leach, 1818, p. 413 (= *Lepas hillii* (Leach) Darwin 1851), pas de provenance.

⁶⁹ A cette époque, on pratiquait encore largement, et apparemment sans remords, le découpage des planches imprimées pour en constituer des dossiers.

⁷⁰ Les types de 8 (sur 9) des espèces créées par Leach se trouvent au British Museum où ne manque que ceux de *Cineras Olfersii*.

6. *Pentalasmis Spirulae* [n.sp.]—Leach, 1818, p. 413 (= *Lepas pectinata* Spengler 1793), sur *Spirula*, 22°0'0 N–19°17'0 W, donc 5 avril 1816, au large de la côte saharienne.

7. *Pentalasmis dilatata* [n.sp.]—Leach, 1818, p. 413 (= *Lepas anserifera* L. 1767), sur *Janthina fragilis*, 0°14'0 N–6°18'52 E, donc fin mai, mais cette position ne coïncide pas avec celles que nous connaissons.

8. *Pentalasmis Donovanii* [nov. sp.]—Leach, 1818, p. 413 (= *Lepas fascicularis* Ellis & Solander 1786), 0°38'0 S–7°50'0 E, donc 28 mai 1816.

9. *Pentalasmis Spirulicola* [n.sp.]—Leach, 1818, p. 413 (= *Lepas fascicularis* Ellis & Solander 1786), 22°0'0 N–19°17'0 W, donc 5 avril 1816, au large de la côte saharienne.

3.—Amphipodes

1–4. Quatre nov. gen. et n. spp.—Leach, 1818, p. 417 ; un de ces Amphipodes est “*Primno Guerinii*”, White, 1847, p. 91, B.M. (N.H.), 1 spéc. Congo Expedition, “8°S–46°E”, position nécessairement fautive, et qui pourrait être 1°36'S–8°46'E, donc le 30 mai, jour où Cranch signale avoir pris de nombreux Crustacés.

4.—Isopodes

1. *Oniscus volitans* Cranch MS.—A, p. 10 ; cf. supra p. 30 et Pl. III, fig. 2 : recueilli le 7 mai sur la pectorale d'un Exocet (que Cranch appelle *Exocoetus volitans*), cet Isopode est, malgré l'imperfection manifeste du croquis, identifiable car le spécimen existe dans les collections du British Museum où j'ai pu l'examiner ; il s'agit de *Nerocila trichiura* (Miers 1877 ex White 1847) [*Anilocra trichiura* White 1847 est un *nomen nudum*] ; j'ai cité et figuré l'exemplaire de Cranch, une ♀ ovigère de 22 mm (Monod, 1931 : 6, fig. 1).

2. *Sphaeroma* [n.sp.]—Leach, 1818, p. 417.

3. *Cymothoa* [n.sp.]—Leach, 1818, p. 417.

4. Nov. gen. et n.sp.—Leach, 1818, p. 417, “intermediate betwixt the genera *Aega* and *Eurydice*”.

5. Palinoures

1. *Phyllosoma brevicorne* [n.sp.]—Leach, 1818, p. 417, pl.n.num., 1 fig. non num. B.M. (N.H.) : White cat. n° 168 *a-b* (à sec) et 168 *e-n* (alcool)—White, 1847, p. 82, 14 spec. (*a-d*, à sec et *e-n*, en alcool).

2. *Phyllosoma clavicornis* [n.sp.]—Leach, 1818, p. 417, pl.n.num., 1 fig. non num., cf. croquis de Cranch, C. p. 30, supra, fig. B.M. (N.H.) : White cat. n° 171 *a* (à sec)—White, 1847, p. 82, 6 spéc.

3. *Phyllosoma commune* [n.sp.]—Leach, 1818, p. 417, pl.n.num., 1 fig. non num., cf. croquis de Cranch, C. p. 51, pl. III, fig. 4—B.M. (N.H.) : White cat. n° 170 *a-e* (à sec) et 170 *f-h* (alcool)—White 1847, p. 82, 8 spéc. (*a-e*, à sec et *f-h*, en alcool).

4. *Phyllosoma laticorne* [n.sp.]—Leach, 1818, p. 417, pl.n.num., 1 fig. non num. B.M. (N.H.) : White cat. n° 169–169 *a* (à sec)—White, 1847, p. 82, 1 spéc. [= *Phyllosoma cassidum* (Forster 1782)].

5. *Phyllosoma Smithii* [n.sp.]—Leach MS., B.M. (N.H.) : White cat. n° 693 *a*

(alcool), "Congo Exped. J. Cranch"—White, 1847, p. 82 [nom. nud. : "*Phyllosoma Smythii*, Leach].

6. *Phyllosoma Cranchii* [n.sp.]—Leach MS., B.M. (N.H.) : White cat. n°692 a, (alcool), "Congo Exped. J. Cranch", 36°S [*sic*]—9°E ; il faut lire bien entendu 3°S, ce qui place la capture dans la 1ère quinzaine de juin 1816—White, 1847, p. 82, 2 spéc. ; "*Phyllosoma Cranchii*, Leach" [*nomen nudum*].

6. Anomoures

1. Une zoé de Porcellanidé est décrite (cf. p. 18 et 56) et figurée (cf. G, fig. 18).

7. Brachyoures

1. *Zoëa clavata* [n.sp.]—Leach, 1818, p. 414, pl.n.num., 1 fig.non num. B.M. (N.H.) : White cat. n°690 a (alcool), reg. n° 1949 ; 10 : 25 : 4—White, 1847, p. 80 : "1°S—8°W" est impossible, mais 1°S—8°E correspond aux 29—30 mai 1816.

2. *Megalopa maculata* [n.sp.]—Leach, 1818, p. 414. B.M. (N.H.) : White cat. n° 695 a-b [n'a pas été retrouvé]—White, 1847, p. 64, 2 spéc.

3. *Megalopa Cranchii* [n.sp.]—Leach, 1818, p. 414. B.M. (N.H.) : White cat. n° 694 a [n'a pas été retrouvé]

4. *Megalopa sculpta* [n.sp.]—Leach, 1818, p. 414. B.M. [N.H.] : White cat. n° 690 a (alcool), reg. n° 1949 : 10 : 25 : 2—White 1847, p. 64, 1 spéc.

5. *Portunus* sp. [n.sp.]—Leach, 1818, p. 413. B.M. (N.H.) : 1 spéc. (à sec), non enreg., "Gulf of Guinea. Congo Exped.", étiqueté "*Portunus rugosus*", = *Macropipus rugosus* (Doflein, 1904).

6. *Lupa Smythiana* [n.sp.]—Leach MS.—B.M. (N.H.) : White cat, n° 22 et White, 1847, p. 27 (*nomen nudum*), 2 spéc. (à sec)⁷¹, étiquetés "*Callinectes smythianus*" (White, 1847, p. 27 : "*Neptunus sanguinolentus*"), = *Callinectes gladiator* Benedict 1893.

7. *Lupa Smythiana* [n.sp.]—Leach MS.—B.M. (N.H.) : White cat. n°22, 1 spéc. (alcool), étiqueté "*Callinectes Smythianus*" (White, 1847, p. 27 : "*Neptunus sanguinolentus*"), = *Callinectes gladiator* Benedict 1893.

8. *Lupa Cranchiana* [n.sp.]—Leach MS.—B.M. (N.H.) : White cat. n°26, 1 spéc. (alcool) (White, 1847, p. 27) : "*Neptunus sanguinolentus*", White, 1847, p. 27, 3 spéc., = *Portunus validus* Herklots 1851.

9. *Grapsus minutus*—Leach, 1818, p. 414—B.M. (N.H.) : 2 spéc. (alcool), non enreg., "Gulf of Guinea. Congo Expd.", = *Nautilograpsus minutus* (L. 1758). *Grapsus* [n.sp.]—Leach, 1818, p. 414.

10 *Dorippe armata* Miers 1881 ex White, 1847—B.M. (N.H.), 1 spéc. (à sec), "Congo Expd. Coll. J. Cranch" = *Dorippe* sp. Cranch 1818 (H, p. 414) = *Dorippe armata* White, 1847, p. 54 (*nomen nudum*)—B.M. (N.H.), 1 spéc. ; la description et la figure de Miers (1881, p. 269—270, pl. XV, fig. 4—4 a) sont d'après le spécimen de Cranch.

8. Stomatopodes

1. *Alima hyalina* Leach, 1818, p. 416, pl.non num., 1 fig. non num. (Porto Prava et

⁷¹ ♀ juv. *vide* Rathbun, Proc. Biol. Soc. Washington, 1897, p. 50.

7°37'0 N—17°34'15 W, donc 18 avril). B.M. (N.H.) : White cat. n° 164 *a-b* (à sec) et 164 *c-n* (alcool)—White 1847, p. 83, 17 spéc.

Cette larve a été identifiée par Manning (1962) à celle de *Squilla alba* Bigelow, 1893 ; plus récemment le même auteur (1968, p. 136–137) adopte “ *Alima* Leach, 1817 ” comme nom d'un genre, malgré la fréquente utilisation faite de ce nom pour désigner un type de larve de Stomatopode, et utilise le binom “ *Alima hyalina* Leach, 1817 ” (= *Squilla alba* Bigelow, 1893). On aura remarqué la date “ 1817 ” : Manning spécifie (p. 142) que le texte de Leach de la “ *Narrative . . .* ” est de 1818, tandis que la planche non numérotée sur laquelle figure *Alima hyalina* serait de 1817. Il est exact que l'exemplaire de la Royal Geographical Society, comme ceux cités par Holthuis et Manning (1964, p. 140) portent, au bas de la planche en question : “ Published Novr. 1 st, 1817, by John Murray, London ” ; on peut donc penser que si l'exemplaire du Muséum (n° 22795) ne porte pas cette indication, c'est qu'elle aura disparu au cours du rognage. Est-il certain qu'une espèce décrite dans un texte paru dans un volume bien daté (1818) figuré sur une planche appartenant à ce volume mais imprimée à l'avance (1817) doit porter cette dernière date plutôt que celle du volume ?

2. *Smerdis armata* Leach, 1818, p. 415–416, pl. non num., fig. non num. B.M. (N.H.) : White cat. n° 165 *a-b* (à sec) et 165 *c-n* (alcool)—White, 1847, p. 82, 1 spéc. [*Erichtus armatus*].

3. *Smerdis vulgaris* Leach, 1818, p. 415, pl. non num., fig. non num. B.M. (N.H.) : White cat. n° 166 *b* (à sec) et 166 *c-e* (alcool)—White, 1847, p. 82, 5 spéc. [*Erichthus vitreus*] : la position “ 5°N–12° W ” correspond au 30 avril 1816.

9. Divers

Il ne semble guère possible d'identifier, en l'absence des spécimens ou même de figures, les 5 genres et 6 espèces décrits par Leach en 1830 dans les *Transactions of the Plymouth Institution*, bien que 4 des genres soient attribuée à la famille de “ *Squilladae* ”.

1. *Odontorynchus* Leach, 1830, p. 169.

1 *a. Odontocerus* [sic] *lutescens* Leach 1830, p. 170 : “ Habitat ad *Guineae littora* ”.

2. *Prionorhynchus* Leach, 1830⁷², p. 170.

2 *a. Prionorhynchus Cranchianus* Leach, 1830, p. 171, 24° 13'N—18°51'15 W, donc le 4 avril, au large de la côte saharienne.

3. *Opithiocheirus* Leach, 1830 *a*, p. 172.

3 *a. Opithiocheirus Chrysophthalmus* Leach, 1830 *a*, p. 172–173, “ inhabits the Atlantic Ocean near the river Congo ”.

4. *Usterocheirus* Leach, 1830 *a*, p. 173.

4 *a. Usterocheirus Macropocillium* Leach, 1830 *a*, p. 173–174, “ inhabits the Atlantic, adhering to *Fucus natans* ”.

4 *b. Usterocheirus Brachycoilion* Leach, 1830 *a*, p. 174, avec le précédent.

5. *Zuphanusa* Leach, 1830 *a*, p. 174–175.

5 *a. Zuphanusa Smithiana* Leach, 1818, p. 175, même habitat.

⁷² Nec Jacquinot & Lucas, 1853 [Braychyoure].

V. Myriapodes

- 1-2. *Iulus*, 2 spp. (1 n.sp.), Leach, 1818, p. 418.
3. *Scolopendra* n.sp., *ibidem*.

VI. Insectes

1-36. 36 espèces parvenues à Londres "in a tolerable state" (un n.gen. de *Scarabaeidea*, 5-6 n.spp.), tout le reste détruit par l'humidité et les Insectes (Leach, 1818, p. 418). Les seules descriptions que je connaisse à ce sujet sont celles de : (1) *Platygenia Zairica* MacLeay, *Horae Entom . . .*, I, 1, 1819 : 152 [*Platygenia* n.gen. : 151], type B.M. = *Platygenia barbata* (Afzelius 1817) (2) *Euporus strangulatus* Audinet-Serville 1834 : 171 *ex* Dejean, 1821, Cat.Coleo. : 105 (*Callichroma strangulata* nom. nudum), type B.M. (3) *Bombyx Mariana* A. White 1843 : 264, holotype B.M. = *Janomima mariana* (White).

VII. Mollusques

1. *Gastropodes*

1. *Janthina fragilis*, seule espèce parvenue à Leach ; tous les autres Gastropodes perdus (Leach, 1818, p. 412).

2. *Firola arcuata* n.sp. Leach, 1818, p. 411, note† 3°15'0 S—9°38'0 E donc au large des côtes du Gabon.

3. *Firola* sp., Leach, 1818, *ibidem* (croquis par Hawkey, pas de spécimen).

4. *Firola* sp., Leach, 1818, *ibidem*, *idem*.

2. *Ptéro-podes*

1. *Cleodora* sp. 2°14'0 S—9°55'15 E, donc Leach, 1818, p. 411.

2. *Cleodora* sp. 2°41'0 S—9°16'0 E, donc Leach, *ibidem*, p. 411-412.

3. *Céphalopodes*

1. *Ocythoë Cranchii* Leach, 1817, p. 295-296, pl. XII, fig. 1-6 ; 1817 *a*, p. 139 ; 1818, p. 410 ; 1818 *c*, p. 394 ; Blainville, 1818, p. 49-51, fig. 2 A-B—B.M. (N.H.) : 1 ex. (alcool) "J. Cranch, Congo Expedition". [probablement *Argonauta hians* Solander 1786, *vide* Malcolm R. Clarke, in litt., 9-I-1969]

1 a. *Cranchia* n.gen. Leach, 1817 *a*, p. 140 ; 1818 *c*, p. 394 ("Cranchie, *Cranchia*", note : "Ce genre est dédié à M. Cranch, l'une des victimes de l'expédition anglaise au Congo, et homme vraiment remarquable par le zèle qu'il a montré pour la Zoologie").

2. *Cranchia scabra* Leach, 1817 *a*, p. 140 ; 1818, p. 410, pl.n.num., 1 fig. n. num. ; 1818 *c*, p. 395, pl.n.num. fig. 6—B.M. (N.H.) : 1 ex (alcool)+1 coq., "J. Cranch" : [*Cranchia scabra* Leach, 1817]

3. *Cranchia maculata* Leach, 1817 *a*, p. 140 ; 1818, p. 410 ; 1818 *c*, p. 395 — B.M. (N.H.) : 1 ex. (alcool), "the sac only", "J. Cranch". [Hoyle (Rep. Scient. Res. H.M.S. Challenger, Zool., XVI, 1886, p. 186-187) signale avoir examiné le type, qui est en mauvais état et pourrait être un *Megalocranchia* (*Taonius* juv. ?)]

4. *Loligo Banksii* Leach, 1817 *a*, p. 141 ; 1818, p. 411, pl.n.num., 1 fig. n. num. ; 1818 *c*, C. [almar] (*laps. cal.* pour *L. [oligo]*) *Banksii*, p. 396, pl.n. num., fig. 4—B.M. (N.H.) : 1 ex. (alcool), = *Onychoteulhis banksi* (Leach, 1817).

5. *Loligo Cranchii* Blainville, Journ.Phys.Chim.Hist.Nat., XVCI, 1823, p. 123 ;

Dict.Sc.Nat., XXVII, 1823, p. 135 et XXXII, 1824, p. 174 ; c'est comme l'a note déjà A. d'Orbigny, Moll.viv. et foss., 1855, p. 240, le *Cranchia scabra* : on le voit par l'Atlas du Dict.Sc.Nat. où Blainville appelle " Poulpe de Cranch " (pl.n.num., fig. 2-2 a) l'*Ocythoë Cranchii* et " Calmar de Cranch " (autre pl.n.num., fig. 4) le *Cranchia scabra* ; "*Cranchia*" est pour lui une " subdivision " de *Loligo*, mais pourquoi aurait-il créé le binom *Loligo Cranchii* ? Les règles de la nomenclature, alors, n'existaient pas encore. Quand Blainville publie en 1823 (p. 123) un " C.[almar] de Cranch *L.[oligo] Cranchii* Leach, Voy. au Congo, pl. I et J. Phys. LXXXVI, pl. de juin, fig. 6 " il fait en effet erreur car il n'y a pas de *Loligo Cranchii* Leach dans la Narrative . . . , ni autre part d'ailleurs.

6. *Loligo leptura* Leach, 1817 a, p. 141 (*L. lepturo* [sic]) ; 1818, p. 411, pl.n.num., 1 fig. n.num. ; 1818 c, p. 395, pl.n.num., fig. 5—B.M. (N.H.) : 2 ex. (alcool), " West Africa, J. Cranch ", 1°8'0"N—7°26'30" E⁷³, donc le 19 mai, non loin de São Tomé, = *Enoplateuthis leptura* (Leach, 1817).

7. *Loligo Smythii* Leach, 1817 a, p. 141 ; 1818, p. 411, pl.n.num., 1 fig.n.num.—B.M. (N.H.) = 1 ex. (alcool), même localité que *L. leptura*, = *Enoplotcuthis leptura* (Leach, 1817).

VIII. Tuniciers

1. *Salpa fusiformis* Cuv. f. *gregata*—Figurée par Cranch, C, p. 40, cf. p. 11
2. *Salpa maxima* Forsskal f. *gregata*—Figurée par Cranch, C, p. 23, cf. p. 11.

IX. Poissons

Il n'est pas possible d'énumérer avec certitude les spécimens de Poissons récoltés par Cranch et conservés au British Museum, aucun enregistrement systématique ne les concernant. Trois holotypes, en tous les cas, existent :

1. *Oxyrhynchus deliciosus* [n.sp.]—Leach, 1818, p. 410, cf. descr. et croquis de Cranch, D, p. 3, supra p. 53, (= *Mormyrops deliciosus*, cf. Boulenger, Freshwater Fishes of Africa, I, 1909, p. 33-34)—B.M. (N.H.) : 1 ex. naturalisé, SL = 695 mm, LT = 745 mm ; cet holotype est aussi celui du *Mormyrus Tuckeyi* Valenciennes in Cuvier et Valenciennes, Histoire naturelle des Poissons, XIX, 1847, p. 263-264.

2. *Silurus congensis* Leach, 1818, p. 409 (= *Eutropius congensis* ; on se demande pourquoi Boulenger écrit, Poissons du Bassin du Congo, 1901, p. 268 : *congolensis*, comme dans ses Freshwater Fishes of Africa, II, 1911, p. 281-282 ; il ne peut s'agir que d'un lapsus qu'il n'y a aucune raison d'accepter)—B.M. (N.H.) : 1 ex. en alcool, SL = 265 mm, LT = 315 mm.

3. *Pimelodus Cranchii* Leach, 1818, p. 409-410 (= *Chrysichthys cranchii*, cf. Boulenger, loc. cit., II, 1911, p. 332-334—B.M. (N.H.) : 1 ex. en alcool, SL = 179 mm, LT = 215 mm, " River Congo—Congo Expedition ").

4. *Squalus serrata* [sic] n.nudum, Tuckey, 1818, p. 40.

X. Reptiles

Les types de *Coluber Palmarum* Leach, 1818, p. 408-409 (= *Dasyplettis scaber* (L.) var. *palmarum*) et de *Coluber Smythii* Leach, 1818 (p. 409 (= *Grayia smythii*) se

⁷³ Gray (1849, p. 47) donne 1° 8'N—26° 30'E, ce qui est évidemment faux.

trouvent dans les collections du British Museum ; par contre la tête de *Trionyx Egyptiacus* est perdue.

XI. Oiseaux

Il ne semble exister à Londres qu'un seul spécimen de Cranch : le type de *Perdix Cranchii* Leach 1818 (p. 408)⁷⁴ est en effet conservé au British Museum (No. 1965.2.1), sans étiquette d'origine mais avec une étiquette du musée : " No. 7. Type. *Pternistes cranchii*, Leach. Loc. Congo. Pres. by Congo Expedition " ; spécimen mentionné par R.L.M. Warren, Type-specimens of Birds in the British Museum (N.H.), vol. 1, 1966, p. 70.

Les types de *Hirundo Smithii* Leach, 1818 (p. 407) et de *Plotus Congensis* Leach, 1818 (p. 408) ne se trouvent pas à Londres : ont-ils été déposés au British Museum en même temps que *Perdix Cranchii* ? Il est impossible de le découvrir. Je ne sais rien non plus du type de *Sterna senex* Leach, 1818 (p. 408).

La liste donnée par Leach (1818, p. 407-408) des autres Oiseaux (32 spp.) est la suivante, reproduite avec addition de la nomenclature actuelle⁷⁵.

[—P. 407—]

1. "*Aquila melanaetos*, (*Savignys Oiseaux d'Egypt. pl. ii. f. 2.*)" = *Aquila pomarina* Brehm.
2. "*Ierax musicus*, Singing hawk, (*Le Vail. Ois. d'Afr. i. pl. 27.*)" = *Melierax canorus* (Risl.)
3. "Circus —, (L'Acoli, *Le Vail.*)" = ?
4. "*Elanus melanopterus*, (*Sav. Ois. d'Ég. pl. ii. f. 2.*) In great plenty" = *Elanus caeruleus* (Desf.)
5. "*Milvus aetotius*, (*Sav. Ois. d'Ég. pl. iv. f. 1*)" = *Milvus migrans aegyptius* (Gmel.)
6. "*Polophilus* —, (*Sav. Ois. d'Ég. pl. iv. f. 1*)" = *Centropus senegalensis* (L.)
7. "*Corvus scapularis*, (*Le Vail. Ois. d'Af. ii. pl. 53.*)" = *Corvus albus* P.L.S. Müller.
8. "*Coracias afra*, African roller" = *Eurystomus afer* (Latham)
9. "*Passer*, (*Savig. Ois. d'Ég. pl. v. f. 7.*)" = ?
10. "*Hirundo Savignii*, (*Sav. Ois. d'Ég. pl. iv. f. 4.*)" = *Hirundo lucida* Verreaux
11. "*Hirundo Smithii* (New species) . . . A single specimen was killed off Chisalla island" = *Hirundo smithi* Leach.
12. "*Alauda*, (*Le Vail. Ois. d'Afr. pl. 196*)" = *Macronyx capensis* (L.)
13. "*Sylvia*, (*Savig. Ois. d'Ég. pl. v. f. 3.*)" = *Sylvia curruca* (L.)
14. "*Sylvia*, (*Le Vail. Ois. d'Afr. 121*)" = ? *Acrocephalus* sp.
15. "*Certhia cincta*, (*Ois Dor. ii. pl. 10*)" = *Nectarinia afra* (L.)
16. "*Certhia chalybea*, (*Ois Dor. ii. pl. 13 et 14*)" = *Cinnyris chalybea* (L.)
17. "*Merope erythropterus*, (Pl. énl. 318)" = *Melittophagus pusillus* (P. L. S. Müller)

⁷⁴ Devenu *Francolinus Cranchii* J. F. Stephens in G. Shaw, Gen. Zool., XI, Aves, 2, 1819, p. 336, *Pternistes Cranchii* (Leach 1818), J. G. Wagler, Isis (Oken), 1832, col. 1229 et *Pternistes afer cranchi* ou *Francolinus afer cranchi*.

⁷⁵ Je dois remercier ici le Professeur Jean Dorst qui a bien voulu m'aider dans la mise à jour de la nomenclature utilisée par Leach.

18. "*Upupa Epops*, Common Hoopoe, not varying in the slightest degree from that of Europe" = *Upupa epops* L.
19. *Alcedo maxima* var. ? With the breast ferruginous, the belly varied with black and white, the throat white. In other respects it agrees exactly with the common varieties from Senegal. " = *Megaceryle maxima* (Pallas)
20. "*Alcedo* —, (*Pl. én.* 556) probably a variety of *Senegalensis*, or the other sex." = *Halcyon senegalensis* (L.)
21. "*Alcedo rudis*, (*Pl. én.* 62.)" = *Ceryle rudis* (L.)
22. "*Buceros* —, (Le Vail. Ois. d'Afr. pl. 233.)" = *Tockus fasciatus* (Shaw)
23. "*Perdix Cranchii*, (new species) . . ." = *Pternistis cranchi* (Leach)
24. "*Columba* —, (*Savig. Ois. d'Ég. pl.* 5 f. 9) common." = *Stigmatopelia senegalensis* (L.)
25. "*Vanellus* —, (*Savig. Ois. d'Ég. pl.* 6. f. 3.) = *Hoplopterus spinosus* (L.)
26. "*Scopus umbretta*, Tufted Umber ; not uncommon" = *Scopus umbretta* Gmel.
27. "*Ardea* —, (*Savig. Ois. d'Ég. pl.* 8 f. 1.)" = *Bubulcus ibis* (L.)
28. "*Ardea Senegalensis*, (*Pl. én.* 315.)" = *Ardeola ralloides* (Scopoli)
29. "*Parra Africana*, (*Lath. Syn. tab.* 87.)" = *Actophilornis africana* (Gmel.)
30. "*Recurvirostra* — Very much destroyed, but from the parts remaining, not to be distinguished from our European species, *R. Avosetta*, the common Avoset." = *Recurvirostra avosetta* L.
31. "*Phalacrocorax* —, (*Savig. Ois. d'Ég. pl.* 8. f. 2.)" = *Phalacrocorax africanus* (Gmel.)
32. "*Plotus Congensis*, (new species) . . . One was killed." = *Anhinga rufa* (Lacep. et Daud.)
33. "*Anas* —, (*Savig. Ois. d'Ég. pl.* 10. f. 1)" = *Tadorna ferruginea* (Pallas).
34. "*Sterna senex*, (new species) . . ." = *Anous stolidus* (L.)
35. "*Rhynchops niger*, (*Pl. én.* 357.) = *Rhynchops flavirostris* Vieillot
- Il va sans dire que cette liste, pour l'établissement de laquelle j'ai bénéficié de l'aide du Prof. Jean Dorst et de Mme Voisin, représente les identifications proposées par Leach sans qu'il soit possible pour certaines, en l'absence des spécimens correspondants, d'en vérifier l'exactitude.

Les genres ou espèces dédiées à John Cranch me paraissent être les suivants :

I. Crustacés

1. *Achaeus Cranchii* Leach, Malac. Podophth. Brit., Dec. 1817, pl. XX/C et lég.—[Brachy.].
2. *Campecopea Cranchii* Leach, Dict. Sc. Nat., XII, 1818, p. 341.—[Isop., = *C. hirsuta* (Montagu 1804)].
3. *Cineras Cranchii* Leach, 1818 (supra, p. 64).—[Cirr., = *Conchoderma virgatum* (Spengler 1790)].
4. *Cineras Cranchianus* Leach, 1825 (supra p. 64).—[Cirr., = *Conchoderma virgatum* (Spengler 1790)].
5. *Cirolana Cranchii* Leach, Dict.Sc.Nat., XII, 1818, p. 347.—[Isop.].

6. *Ebalia Cranchii* Leach, Malac. Podophth. Brit., Apr. 1817, pl. XXV/7—11 et lég.—[Brachy.].

7. *Hippolyte Cranchii* Leach, Malac. Podophth. Brit., Dec. 1817, pl. XXXVIII/17-21 et lég.—[Décap. Nat., = *Thoralus cranchii* (Leach, 1817)]

8. *Lupa Cranchiana* Leach MS. in White, 1847, p. 27.—[Brachy., = *Portunus validus* Herklots 1851].

9. *Megalopa Cranchii* Leach, 1818 (supra, p. 66).—[Brachy.].

10. *Nelocira Cranchii* Sherborn, Index Anim. 1801-1850, C, p. 1589, sans doute pour *Nelocira Swainsonii* Leach, Dict. Sc. Nat., XII, 1818, p. 347.

11. *Pandarus Cranchii* Leach, Dict. Sc. Nat., XIV, 1819, p. 535.—[Cop.]

12. *Phyllosoma Cranchii* Leach MS. in White, 1847, p. 82.—[Astac.]

13. *Pinnotheres Cranchii* Leach, Malac. Podophth. Brit., Jan. 1815, pl. XIV/4-5 et lég.—[Brachy., = *Pinnoterer pisum* (Pennant 1777)].

14. *Prionorhynchus Cranchianus* Leach, 1830 (supra, p. 67).—[?]

15. *Vertumnus Cranchii* Leach MS. in White, 1847, p. 89, *nomen nudum*.—[Amphi., = *Epimeria cornigera* (Fabricius 1779)].

II—Mollusques

I. Placophores

1. *Chiton Cranchii* Leach, 1847, p. 271 [*nom. nud.*]

2. Gastropodes

2. *Alvania Cranchii* Leach, 1847, p. 270 [*nom. nud.*]

3. *Bela Cranchii* Leach, 1847, p. 270 [*nom. nud.*]

4. *Bulla Cranchii* J. Fleming, Hist. of Brit. Anim., 1828, p. 292-293.—En réalité plutôt "*Bulla Cranchii* Fleming *ex* Leach" car ce dernier signale (p. 293) avoir reçu le spécimen de Leach avec un nom *in schedulis*.

5. *Bulla Cranchii* Fleming *ex* Leach 1828 ; cf. E. Forbes and S. Hanley, Hist. Brit. Moll., III, 1851, p. 533-534, pl. CXIV/D, fig. 8-9 et V.V., fig. 2.

6. *Bulla Cranchii* A. Adams *ex* Leach MS in G.B. Sowerby, Thes. Conch., II, (1856), Part II, p. 586, pl. CXXV/115—Encore la même espèce.

7. *Fusus Cranchii* T. Brown, Ill. Rec. Conchol. Gr. Brit. Ireland, 2nd ed. [1844], p. VII et 6, pl. V, fig. 5 (bien que la légende p. 140 ne mentionne pas *F. Cranchii* et donne la fig. 5 pour *F. discors* (1st ed., 1827, pl. 48, fig. 5)).

8. *Murex Cranchii* Leach MS., in T. Brown ("*Fusus Cranchii*"), *ibidem*, p. 6.

9. *Roxania Cranchii* Leach, 1847, p. 268 [*nom. nud.*] ; cf. Leach, Moll. Brit. Synopsis, 1852, p. 43 ; le binom ms serait de 1819 ou 1820.

10. *Scaphander Cranchii* (Leach) Lovén, Index. Moll. Scand. occid.hab., Kongl. Vet.-Akad. Förh., 3, 1846, p. 142.

11. *Trochus Cranchii* Leach, 1847, p. 270 [*nom. nud.*]

3. Céphalopodes

12. *Cranchia* Leach, 1817 (supra, p. 68) [type : *Cranchia scabra* Leach]

13. *Cranchca* Schweigger, Handb. Nat. Skelett-losen ungeglied. Thiere, 1820, p. 758.

14. *Liocranchia* Pfeffer, Abhandl. aus dem Geb. der Naturwiss. Hamburg, VIII, 2, N° 4, 1884, p. 85.

15. *Megalocranchia* Pfeffer, *ibidem*, p. 84.
 16. *Cranchidae* [fam.], cf. J. E. Gray, Cat. Moll. Coll. Brit. Mus., Part I, 1849, p. 36 et 37.
 17. *Cranchina* [sub-fam.] J. E. Gray, Proc. Zool. Soc. London, 1847, p. 205.
 18. *Ocythoë Cranchii* Leach, 1817 (supra, p. 68)

III. Poissons

1. *Pimelodus Cranchii* Leach, 1818.

IV. Oiseaux

1. *Perdix Cranchii* Leach, 1818 (supra, p. 70).

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- 1818a. Appendix, No. II. Observations on the Genus *Ocythoë* of Rafinesque, with a Description of a new species, *in* Tuckey, J. K. *Narrative . . . to explore the River Zaïre* Appendix II pp. 400-401. 1 pl. " XII " [celle des *Philos. Trans.*], placée d'ailleurs dans l'article Home *in* : " *Narrative . . .* ".
- 1818b. Sur plusieurs genres nouveaux de Crustacés. *J. Phys. Chim. Hist. nat.*, **86** : 304-307, fig. 4-11 [pl. n. num.]⁷⁶ Cet article aura-t-il vraiment été publié en avril ? On peut en douter puisque sa planche reproduit une planche parue dans la " *Narrative . . .* ", publiée en mars. Mais il n'est pas impossible non plus, évidemment, que Leach ait envoyé plus ou moins simultanément deux articles, illustrés chacun de la même planche, d'une part à Sir John Barrow, pour la " *Narrative . . .* ", d'autre part à Blainville, pour le *Journal de Physique*. *Zoë clavata*, p. 304, fig. 4 ; *Smerdis*, p. 305 ; *Smerdis vulgaris*, p. 305, fig. 5 ; *Smerdis armata*, p. 305, fig. 6 ; *Alima*, p. 305 ; *Alima hyalina*, p. 305, fig. 7 ; *Phyllosoma brevicorne*, p. 307, fig. 8 ; *Phyllosoma laticorne*, p. 307, fig. 9 ; *Phyllosoma commune*, p. 307, fig. 10 ; *Phyllosoma clavicorne*, p. 307, fig. 11.
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⁷⁶ Tous ces dessins sont empruntés à la pl. de Leach, 1818 (*Narrative . . .*), mais reproduits inversés.

⁷⁷ Ces dessins sont empruntés à la pl. de Leach, 1818 (*Narrative . . .*) mais reproduits inversés. Les figs. 1 (*Ocythoë antiquorum*) et 2 (*Ocythoë Cranchii*) semblent bien appartenir à un article de Blainville, Sur le Poulpe habitant de l'Argonante (suite), livr. juin. p. 434-455.

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PLANCHE I

- FIG. 1, doc. G, No. 1, cf. p. 55
FIG. 2, doc. G, No. 2, cf. p. 55
FIG. 3, doc. G, No. 4, cf. p. 55
FIG. 4, doc. G, No. 5, cf. p. 55
FIG. 5, doc. G, No. 20, cf. p. 56
FIG. 6, doc. G, No. 19, cf. p. 56
FIG. 7, doc. G, No. 11, cf. p. 56
FIG. 8, doc. G, No. 7, cf. p. 55
FIG. 9, doc. G, No. 33, cf. p. 57

April 1852



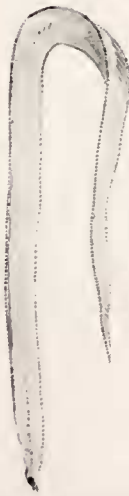
April 1852



3



May 1852



4

May 30th
full size



5



6

July 20
No teeth
No scales present



7

8



Preserved in 1851 1852
2 specimens

9



PLANCHE 2

- FIG. 1, doc. G, No. 9, cf. p. 56
FIG. 2, doc. A, p. 21, cf. p. 10
FIG. 3, doc. G, No. 10, cf. p. 56
FIG. 4, doc. G, No. 23, cf. p. 56
FIG. 5, doc. G, No. 19, cf. p. 56
FIG. 6, doc. G, No. 12, cf. p. 56
FIG. 7, doc. G, No. 29, cf. p. 56
FIG. 8, doc. G, No. 27, cf. p. 57
FIG. 9, doc. G, No. 13, cf. p. 56
FIG. 10, doc. G, No. 28, cf. p. 57



2

(21)

rather more than a inches above dark brown with
 the back & sides being lighter in
 the spots on the back has a
 on the
 less is about 1/3 of an
 common over the
 small length of 1/2 inch
 The body has numerous
 to in the form of the belly
 in the form of the belly
 in the form of the belly

May 14 1916

3



13.

in young fish of larger sizes with the dorsal skeleton
 of the dorsal being short & rather broad & the
 of the dorsal is general in the dorsal - the
 of the dorsal they are of the dorsal skeleton



5

11th June

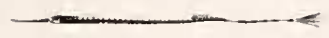
8



May 25 1916

Length 1/2 inch

9



on line

10



PLANCHE 3

FIG. 1, doc. C, p. 30, larve *Alima* et Phyllosome (le *Phyllosoma clavicornis* de la planche de Leach 1818).

FIG. 2, doc. A, p. 10, *Nerocila trichiura*, cf. p. 65

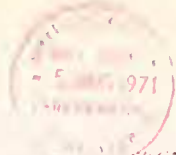
FIG. 3, doc. C, p. 28, Siphonophore, cf. p. 11

FIG. 4, doc. C, p. 51, Phyllosome (le *Phyllosoma commune* de la planche de Leach 1818).

FIG. 5, doc. C, p. 28, cf. p. 11.

FIG. 6, doc. C, p. 32, cf. p. 11.

FIG. 7, doc. A, p. 25, spécimen de sténographie.



... were each eye eye glass
by blue tinges with brown at the margin of each segment
found a new species I propose the specific names of Volkmann
& sketch in figure of this thread below

also several
"moustache-like"
209 ---



Allicimus d. borderis
which are pronounced in
the name of the species

Wednesday 8
of file taken in the forest in bottles 1909 length when taken

2

Thursday 9
of borderis & *Allicimus* were seen around us & several
taken in the net (S. Volkmann)



1



3



4



5



6



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